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Conspectus of the Benthic Marine Algae of the Gulf of California: Rhodophyta, Phaeophyceae, and Chlorophyta

*James N. Norris, Luis E. Aguilar-Rosas,
and Francisco F. Pedroche*

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ABSTRACT

Norris, James N., Luis E. Aguilar-Rosas, and Francisco F. Pedroche. Conspectus of the Benthic Marine Algae of the Gulf of California: Rhodophyta, Phaeophyceae, and Chlorophyta. *Smithsonian Contributions to Botany*, number 106, vi + 125 pages, 5 figures, 1 table, 1 appendix, 2017. — The present treatment constitutes an undated, annotated, systematic review of red, brown, and green benthic marine algae of the Gulf of California, Mexico, using the currently accepted taxon names, with the date and place of valid publication, type locality, and north to south distribution in the Gulf. The systematic list contains 730 species recognized in the Gulf of California, including 490 species of Rhodophyta, 112 species of Phaeophyceae, and 128 species of Chlorophyta. Among the previously recorded marine algae, 39 species are considered uncertain records or to have uncertain taxonomic status, the selection of a lectotype for *Gracilaria hancockii* resolves its taxonomic status, 3 combinations are made for recognized varieties of *Caulerpa chemnitzia*, and 15 species are excluded from the Gulf of California marine flora. The geographical distribution range of each species is given from its northernmost to southernmost locales within three regions the Gulf of California: the east coast of the Gulf (states of Sonora, Sinaloa, Nayarit, and northern Jalisco), the west coast of the Gulf (states of Baja California and Baja California Sur), the islands of the Gulf, including the Islas Grandes (=Islas de la Cintura; Midriff Islands), and islands of the states of Baja California, Baja California Sur, Sonora, Sinaloa, Nayarit, and northern Jalisco. Remarks, where appropriate, are included on taxonomy, nomenclature, ecology, and/or distribution with the taxon.

Cover images (left to right): *Hydroclathrus clathratus* (Punta La Gringa, Baja California), *Asparagopsis taxiformis* (Bahía de La Paz, Baja California Sur); *Colpomenia sinuosa* (Puerto Peñasco, Sonora), and *Spyridia filamentosa*? (Laguna Percebú, Baja California). Image credits (left to right): 1, 2, 4 by L. E. Aguilar-Rosas; 3 by J. N. Norris.

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Conspectus of the Benthic Marine Algae of the Gulf of California: Rhodophyta, Phaeophyceae, and Chlorophyta

James N. Norris,^{1*} Luis E. Aguilar-Rosas,²
and Francisco F. Pedroche³

INTRODUCTION

The Gulf of California (Golfo de California), also known as the Sea of Cortez (Mar de Cortés) or Vermilion Sea (Mar Bermejo), is basically a long, rectangular basin, over 1,050 km in length (between 24°N and 32°N), and ranges 48–241 km (averaging about 175 km) in width. Closed in the north, the Gulf of California extends from the Río Colorado delta southward between the east coast of the Mexican Baja California peninsula (states of Baja California and Baja California Sur) and the west coast of mainland Mexico (states of Sonora, Sinaloa, Nayarit, and northern Jalisco) to its southernmost entrance, which runs southeast from Cabo San Lucas (Baja California Sur) to Cabo Corrientes (Jalisco). It has a coastline of about 4,000 km (Figures 1–5). There are over 900 islands (islas), islets (isolets), and rocas throughout the Gulf, including the largest islands in the Gulf, the Islas Grandes (Islas de la Cinura; Midriff Islands). The Gulf of California has wide range of habitats from coastal salt marshes, mangrove lagoons, estuaries, and marine intertidal and shallow subtidal waters to very deep waters over its tropical and subtropical to warm temperate regions (Pedroche et al., 2005, 2008; Norris, 2010, 2014).

The Gulf of California has a wide variety of habitats that has yielded a high diversity of benthic macroalgae. Currently 730 species (including 3 subspecies, 30 varieties, and 9 forms) are recognized in the Gulf of California, with the Rhodophyta well represented by 23 orders, 52 families, 155 genera, and 490 species (including 1 subspecies, 21 varieties, and 2 forms); Phaeophyceae represented by 10 orders, 19 families, 37 genera, and 112 species (including 1 subspecies, 2 varieties, and 2 forms); and Chlorophyta represented by 7 orders, 16 families, 30 genera, and 128 species (including 1 subspecies, 10 varieties, and 3 forms). Among those marine algae previously recorded in the Gulf of California, 39 species were found to be uncertain records or of uncertain taxonomic status, and 15 species are excluded from its marine flora. A lectotype is selected for *Gracilaria hancockii* E. Y. Dawson, which is treated as a synonym of *G. subsecundata* Setchell et N. L. Gardner, and new combinations for three varieties of *Caulerpa chemnitzia* are proposed.

The general features of the Gulf of California's marine flora and its history of marine botanical exploration can be found in Pedroche et al. (2005, 2008) and Norris (2010). Oceanographic features of the Gulf of California are given by van Andel and Shor (1964), Álvarez-Borrego (1983, 2002), and Lavín and Marinone (2003), with overviews by Maluf (1983), González-González et al. (1996), Brusca et al. (2005),

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FIGURE 1. Gulf of California. NASA Moderate Resolution Imaging Spectroradiometer (MODIS) image (México.A200334.2040), taken 30 November 2003 by the *Aqua* Earth-observing satellite. Credit: Jacques Descloitres, MODIS Rapid Response team, NASA/GSFC, Visible Earth, EOS Project Science Office, NASA Goddard Space Flight Center.



FIGURE 2. Gulf of California coasts from the mouth of Río Colorado to the southern entrance from Cabo San Lucas (Baja California Sur) to Cabo Corrientes (northern Jalisco): east coast (mainland Mexico; green), west coast (Baja California peninsula; brown), and Islas Grandes (yellow).



FIGURE 3. Islas Grandes (=Islas de la Cintura; Midriff Islands) of the central northern Gulf of California.

Pedroche et al. (2005, 2008), and Norris (2010). Names for Gulf localities referred to in the distribution of the systematic list and shown in the maps (Figures 2–4) are from Lewis and Ebeling (1971) and Pedroche et al. (2005, 2008). Herein the names of authors of the scientific names of the taxa are after Brummitt and Powell (1992). Herbaria with important holdings of Gulf of California marine algae include the following (herbarium abbreviations follow Thiers, 2015; see also Norris, 2014:2):

AD	State Herbarium of South Australia, Adelaide, South Australia, Australia	AHFH	Herbarium of the Allan Hancock Foundation, University of Southern California, Los Angeles, California, USA; AHFH algae collection moved to LAM, now UC
		CAS	Herbarium of the California Academy of Sciences, San Francisco, California, USA; now UC
		CMMEX	Algae Herbarium of the Universidad Autónoma de Baja California, Ensenada, Mexico
		CN	Herbier, Université de Caen, Laboratoire de Biologie, Caen, France



FIGURE 4. East coast of the Gulf of California (west coast of mainland Mexico): extends southward from Río Colorado to Cabo Corrientes, including mainland states (estados) of Sonora, Sinaloa, Nayarit, and northern Jalisco.



FIGURE 5. West coast of the Gulf of California (east coast of the Baja California peninsula); extends southward from Río Colorado to Cabo San Lucas, including the Baja California peninsula states (estados) of Baja California and Baja California Sur.

ENCB	Herbario, Escuela Nacional de Ciencias Biológicas, Instituto Politécnico Nacional, Mexico City, Mexico
FBCS	Herbario Ficológico, Museo de Historia Natural, Universidad Autónoma de Baja California Sur, La Paz, Baja California Sur, Mexico
LAM	Algal Herbarium of the Los Angeles County Museum, Los Angeles, California, USA; now UC
LD	Botanical Museum, Lund, Sweden
MEXU	Herbario Nacional de México, Universidad Nacional Autónoma de México, Mexico City, Mexico
MICH	Herbarium of the University of Michigan, Ann Arbor, Michigan, USA
MLML	Marine Algae Collection, Marine Biological Collection (Museum), Moss Landing Marine Laboratories, consortium of California State University System, Moss Landing, California, USA
PC	Muséum National d'Histoire Naturelle, Laboratoire de Cryptogamie, Paris, France
TCD	Herbarium, School of Botany, Trinity College, Dublin, Ireland
UC	Herbarium of the University of California, Berkeley, USA
US Alg. Coll.	Algal Collection of the U.S. National Herbarium, National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA

The aim of this work is to create an updated, annotated, systematic list with the distribution of the Gulf of California marine macroalgae. The systematic list contains the currently accepted taxon names of red, brown, and green benthic algae, the date and place of valid publication, and type locality. The geographical distribution range of each taxon is given from its northernmost locale to its southernmost locale within three regions of the Gulf of California: the east coast of the Gulf, comprising the states from Sonora to the northern part of Jalisco (Figures 2, 3); the west coast of the Gulf, covering the states of the peninsula of Baja California (Figures 2, 4); and the taxa on the islands of the Gulf, including the Islas Grandes (also called Grandes Islas, Midriff Islands, or Islas de la Cintura; see Lewis and Ebeling,

1971), which contain two of the largest islands of the Gulf (Figures 2, 5). Abbreviations related to the distribution include the following:

BC	Baja California
BCS	Baja California Sur
EC	east coast of the Gulf of California
GRO	Guerrero
IS	islas (islands) of the Gulf of California
ISG	Islas Grandes (Midriff Islands; Islas de la Cintura)
JAL	Jalisco
MICH	Michoacán
NAY	Nayarit
SIN	Sinaloa
SON	Sonora
WC	west coast of the Gulf of California

Where appropriate, remarks on taxonomy, nomenclature, biology, ecology, and/or distribution are included with the taxon. Additional references to the Gulf of California taxa, including taxonomic accounts of the species with their basionym and synonyms, type localities, distribution, and published records, can be found in Pedroche et al. (2005, 2008) and Norris (2010, 2014).

We hope this conspectus will encourage further taxonomic and phylogenetic research on the biodiversity, morphological and molecular systematics, phylogenetics, and phylogeographic and ecological investigations of the marine algae of this biologically unique region. Many challenging questions on taxonomy problems and molecular systematics and phylogenetic relationships remain to be solved. The Gulf of California taxa presented here all require genetic testing to verify, resolve, or correct their identification, phylogenetic relationships, and taxonomy.

Conservation of the diverse ecosystems in the Gulf of California is being provided by several marine biosphere reserves, marine protected areas (for natural resources or flora and fauna), marine sanctuaries, and national marine parks (Cartron et al., 2005; Enriquez-Andrade et al., 2005; Lluch-Cota et al., 2007; Danemann and Ezcurra, 2008; Brusca, 2010; Norris, 2014). The current protected areas of the Gulf of California include 244 islands, islets, and coastal areas indicated on the World Heritage List “Islands and Protected Areas of the Gulf of California” (UNESCO, 2011, 2013, 2016) and “Ficha Técnica para la evaluación de los sitios prioritarios para la conservación de los ambientes costeros y oceánicos de México” (CONABIO et al., n.d.; Sánchez-Ibarra et al., 2013).

Systematic List

SYNOPSIS OF RED ALGAL TAXA

The synoptic list below of Rhodophyta of the Gulf of California is of the phylum, classes, orders, families, and genera of red algae presented in the accounts following this list.

RHODOPHYTA

RHODOPHYTINA

STYLONEMATOPHYCEAE

Stylonematales

Stylonemataceae

Chroodactylon Hansgirg

Stylonema Reinsch

COMPSOPOGONOPHYCEAE

Erythropeltales

Erythrotrichiaceae

Erythrocladia Rosenvinge

Erythropeltis F. Schmitz

Erythrotrichia Areschoug

Porphyrostromium Trevisan

Sablingia Kornmann

EURHODOPHYTINA

BANGIOPHYCEAE

Bangiales

Bangiaceae

Bangia Lyngbye

Porphyrales

Porphyraceae

Pyropia J. Agardh

FLORIDEOPHYCEAE

HILDENBRANDIOPHYCIDAE

Hildenbrandiales

Hildenbrandiaceae

Hildenbrandia Nardo

NEMALIOPHYCIDAE

Acrochaetiales

Acrochaetiaceae

Acrochaetium Nägeli

Rhododrewia S. L. Clayden et G. W. Saunders

Colaconematales

Colaconemataceae

Colaconema Batters

Nemaliales

Galaxauraceae

Dichotomaria Lamarck

Galaxaura J. V. Lamouroux

- Tricleocarpa* Huisman et
 Borowitzka
 Liagoraceae
Dermonema Harvey ex
 Heydrich
Ganonema K.-C. Fan et Y.-C.
 Wang
Helminthora J. Agardh
Izziella Doty
Liagora J.V. Lamouroux
 Scinaiaaceae
Scinaia Bivona-Bernardi
 Palmariales
 Rhodophysemataceae
Rhodonematella Clayden et
 G. W. Saunders
CORALLINOPHYCIDAE
 Corallinales
 Corallinales subord. Corallineae
 Corallinaceae
 Corallinaceae subfam.
 Corallinoideae
Crusticorallina K. R. Hind et
 P. W. Gabrielson
 Corallinoideae tribe Corallineae
Corallina Linnaeus
 Corallinoideae tribe Janieae
Haliptilon (Decaisne) Lindley
Jania J. V. Lamouroux
 Corallinaceae subfam.
 Metagoniolithoideae
Harveylithon A. Rösler,
 Perfectti, V. Peña et
 J. Braga
 Lithophyllaceae
 Lithophyllaceae subfam.
 Lithophylloideae
 Lithophylloideae tribe
 Amphiroeae
Amphiroa J. V. Lamouroux
 Lithophylloideae tribe
 Dermatolitheae
Titanoderma Nägeli
 Lithophylloideae tribe
 Lithophylleae
Lithophyllum Philippi
Litholepis Foslie
Pseudolithophyllum Me.
 Lemoine
 Spongitiaceae
 Spongitiaceae subfam.
 Hydrolithoideae
Hydrolithon (Foslie) Foslie
Fosliella M. Howe
Pneophyllum Kützing
 Spongitiaceae subfam.
 Mastophoroideae
Heteroderma Foslie
 Spongitiaceae subfam.
 Neogoniolithoideae
Neogoniolithon Setchell et
 L. R. Mason
 Spongitiaceae subfam.
 Porolithoideae
Porolithon Foslie
Spongitis Kützing
 Corallinales subord. Mesophyllineae
 Lithothamniaceae
 Lithothamniaceae subfam.
 Lithothamnioideae
 Lithothamnioideae tribe
 Lithothamnieae
Lithothamnion Heydrich
 Lithothamnioideae tribe
 Phymatolitheae
Phymatolithon Foslie
 Mesophyllaceae
Mesophyllum Me. Lemoine
 Hapalidiales
 Hapalidiaceae
 Hapalidiaceae subfam.
 Choreonematoideae
 Choreonematoideae tribe
 Choreonemateae
Choreonema F. Schmitz
 Hapalidiaceae subfam.
 Melobesioideae
 Melobesioideae tribe
 Melobesieae
Melobesia J. V. Lamouroux
AHNFELTIOPHYCIDAE
 Ahnfeltiales
 Ahnfeltiaceae
Ahnfeltia Fries
RHODYMENIOPHYCIDAE
 Gelidiales
 Gelidiaceae
Gelidium J. V. Lamouroux
 Gelidiellaceae
Gelidiella J. Feldmann et
 G. Hamel
 Pterocladaceae
Pterocladia J. Agardh
Pterocladella Santelices et
 Hommersand
 Gracilariales
 Gracilariaceae
 Gracilariaceae subfam.
 Gracilarioideae
 Gracilarioideae tribe Gracilariaceae

- Gracilaria* Greville
Gracilariopsis E. Y. Dawson
Gracilariophila Setchell et
H. L. Wilson
Pterocladophilaceae
Gelidiocolax N. L. Gardner
Bonnemaisoniales
Bonnemaisoniaceae
Asparagopsis Montagne
Bonnemaisonia C. Agardh
Ceramiales
Ceramiales subord. Ceramiineae
Callithamniaceae
Callithamniaceae subfam.
Callithamnioideae
Callithamnioideae tribe
Callithamnieae
Aglaothamnion Feldmann-
Mazoyer
Callithamnion Lyngbye
Callithamniaceae subfam.
Crouanioideae
Crouanioideae tribe Crouanieae
Crouania J. Agardh
Crouanophycus Athanasiadis
Ceramiaceae
Ceramiaceae subfam. Ceramioideae
Ceramioideae tribe Antithamnieae
Antithamnion Nägeli
Ceramioideae tribe Ceramieae
Centroceras Kützing
Ceramium Roth
Corallophila Weber-van Bosse
Gayliella T. O. Cho, L. McIvor
et S. M. Boo
Ceramioideae tribe
Delesseriopsieae
Balliella Itono et Tak. Tanaka
Ceramioideae tribe Dohrnielleae
Antithamnionella Lyle
Irtugovia Perestenko
Ceramioideae tribe
Pterothamnieae
Pterothamnion Nägeli
Ceramiaceae subfam.
Spongoclonoideae
Spongoclonoideae tribe
Spongoclonieae
Pleonosporium Nägeli
Spyridiaceae
Spyridiaceae tribe Spyrideae
Spyridia Harvey
Ceramiales subord. Spermothamniineae
Wrangeliaceae
Wrangeliaceae tribe Griffithsieae
Anotrichium Nägeli
Griffithsia C. Agardh
Wrangeliaceae tribe Lejolisieae
Lejolisia Bornet
Wrangeliaceae tribe
Spermothamnieae
Spermothamnion Areschoug
Tiffaniella Doty et Meñez
Dasyaceae
Dasyaceae subfam. Dasyoideae
Dasya C. Agardh
Dasyaceae subfam.
Heterosiphonioideae
Heterosiphonia Montagne
Delesseriaceae
Delesseriaceae subfam.
Delesserioideae
Delesserioideae tribe Apoglosseae
Apoglossum J. Agardh
Delesserioideae tribe Caloglosseae
Caloglossa (Harvey)
G. Martens
Taenioma J. Agardh
Delesserioideae tribe
Grinnellieae
Grinnellia Harvey
Delesserioideae tribe
Hypoglosseae
Branchioglossum Kylin
Hypoglossum Kützing
Delesseriaceae subfam.
Nitophylloideae
Nitophylloideae tribe
Valeriemayaeae
Polyneurella E. Y. Dawson
Delesseriaceae subfam.
Phycodryoideae
Phycodryoideae tribe
Myriogrammeae
Myriogramme Kylin
Phycodryoideae tribe Phycodryeae
Erythroglossum J. Agardh
Phycodrys Kützing
Sorella Hollenberg
Phycodryoideae tribe
Schizoserideae
Schizoseris Kylin
Sarcomeniaceae
Platysiphonia Borgesen
Rhodomelaceae
Rhodomelaceae tribe Alsidieae
Bryothamnion Kützing
Digenea C. Agardh
Rhodomelaceae tribe Bostrychieae
Bostrychia Montagne

- Rhodomelaceae tribe
 Lophothalieae
Veleroa E. Y. Dawson
Murrayellopsis E. Post
- Rhodomelaceae tribe
 Lophosiphonieae
Lophosiphonia Falkenberg
- Rhodomelaceae tribe
 Streblocladiae
Melanothamnus Bornet et
 Falkenberg
- Rhodomelaceae tribe
 Polysiphonieae
Polysiphonia Greville
- Rhodomelaceae tribe
 Pterosiphonieae
Amplisiphonia Hollenberg
Pterosiphonia Falkenberg
Pterosiphoniella E. Y. Dawson
Symphyocladia Falkenberg
Tayloriella Kylin
- Rhodomelaceae tribe
 Herposiphonieae
Herposiphonia Nägeli
- Rhodomelaceae tribe Chondrieae
Acanthophora J. V.
 Lamouroux
Chondria C. Agardh
- Rhodomelaceae tribe Laurencieae
Erythrocytis J. Agardh
Laurencia J. V. Lamouroux
Osmundea Stackhouse
Palisada K. W. Nam
- Gigartinales
- Caulacanthaceae
Caulacanthus Kützing
- Cystocloniaceae
Hypnea J. V. Lamouroux
- Dicranemataceae
Dicranema Sonder
- Dumontiaceae
Dudresnaya P. Crouan et
 H. Crouan
- Gigartinaceae
Chondracanthus Kützing
Mazzaella G. De Toni
- Kallymeniaceae
Kallymenia J. Agardh
Pugetia Kylin
Erythrophyllum J. Agardh
- Phyllophoraceae
Abnfeltiopsis P. C. Silva et
 DeCew
Besa Setchell
Gymnogongrus Martius
- Petroglossum* Hollenberg
- Solieriaceae
 Solieriaceae tribe Agardhielleae
Agardhiella F. Schmitz
- Solieriaceae tribe Solerieae
Sarcodiotheca Kylin
Tacanoosca J. N. Norris,
 P. W. Gabrielson et
 D. P. Cheney
Wurdemannia Harvey
- Weeksiaceae
Weeksia Setchell
- Peyssonneliales
 Peyssonneliaceae
Cruoriella P. Crouan et
 H. Crouan
Metapeyssonnelia
 Boudouresque,
 Coppejans et Marcot
Peyssonnelia Decaisne
- Cryptonemiales
 Halymeniaceae
Cryptonemia J. Agardh
Grateloupia C. Agardh
Halymenia C. Agardh
Prionitis J. Agardh
Norrissia Balakrishnan
Pachymenia J. Agardh
- Tsengiaceae
Tsengia K.-C. Fan et Y.-P. Fan
- Nemastomatales
 Nemastomataceae
Predaea G. De Toni
- Schizymeniaceae
Platoma Schousboe ex
 F. Schmitz
Schizymenia J. Agardh
Haematocelis J. Agardh
- Plocamiales
 Plocamiaceae
Plocamium J. V. Lamouroux
- Sebdeniales
 Sebdeniaceae
Sebdenia (J. Agardh) Berthold
- Rhodymeniales
 Champiaceae
Champia Desvaux
Gastroclonium Kützing
- Faucheaceae
Gloiocladia J. Agardh
Gloioderma J. Agardh
- Lomentariaceae
 Lomentariaceae tribe
 Ceratodictyeae
Ceratodictyon Zanardini

Lomentariaceae tribe
 Lomentarieae
Fushitsunagia Filloramo et
 G. W. Saunders
Lomentaria Lyngbye
 Rhodymeniaceae
Botryocladia (J. Agardh) Kylin
Irvinea Guiry
Rhodymenia Greville

RHODOPHYTA WETTSTEIN, 1901:46

**RHODOPHYTINA H. S. YOON, K. M. MÜLLER,
 SHEATH, F. OTT ET D. BHATTACHARYA, 2006:490**

**STYLONEMATOPHYCEAE H. S. YOON, K. M. MÜLLER,
 SHEATH, F. OTT ET D. BHATTACHARYA, 2006:490**

STYLONEMATALES K. M. DREW, 1956:73

STYLONEMATACEAE K. M. DREW, 1956:73

***Chroodactylon* Hansgirg, 1885:14**

Chroodactylon ornatum (C. Agardh) Basson, 1979:67
 GULF OF CALIFORNIA DISTRIBUTION. EC: Segundo
 Cerro Prieto, Bahía Kino, SON. WC: Bahía de La Paz, BCS.
 TYPE LOCALITY. Lake Mälaren, bridge near Transberg,
 Stockholm, Sweden.

***Stylonema* Reinsch, 1875:40**

Stylonema alsidii (Zanardini) K. M. Drew, 1956:72
 GULF OF CALIFORNIA DISTRIBUTION. EC: El
 Tornillal, SON, to Puerto Vallarta, JAL. WC: San Felipe, BC, to
 Cabeza Ballena, BCS. IS: Isla María Magdalena, NAY.
 TYPE LOCALITY. Trieste, Gulf of Trieste (in northern
 Adriatic Sea, near border with Slovenia), northeastern Italy.

Stylonema cornu-cervi Reinsch, 1875:40
 GULF OF CALIFORNIA DISTRIBUTION. EC:
 Punta Robinson, SON.
 TYPE LOCALITY. Cres (northern island in Kvarner
 Gulf), Adriatic Sea, Croatia.

**COMPSOPOGONOPHYCEAE G. W. SAUNDERS
 ET HOMMERSAND, 2004:1503**

**ERYTHROPELTALES GARBARY, G. I. HANSEN
 ET SCAGEL, 1980:140**

REMARKS. Athanasiadis (2016a) noted the origi-
 nal spelling, Erythropeltidales, should be corrected to
 Erythropeltales.

ERYTHROTRICHIACEAE G. M. SMITH, 1933:120, 122

***Erythrocladia* Rosenvinge, 1909:71**

Erythrocladia endophloea M. Howe, 1914:81
 GULF OF CALIFORNIA DISTRIBUTION. WC:
 Bahía de Las Ánimas, BC, to Bahía de La Paz, BCS.
 TYPE LOCALITY. Bahía de Sechura, Departamento de
 Piura, northeastern Peru.

Erythrocladia irregularis Rosenvinge, 1909:72
 GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto
 Peñasco, SON, to Punta de Mita, NAY. WC: Bahía Concepción to
 Bahía Balandra, BCS. IS: Isla Turner, ISG; Isla de la Piedra, SIN.
 TYPE LOCALITY. On *Polysiphonia*; Møllegaard, off
 Hirtshals, Skagerrak, northern Denmark.

***Erythropeltis* F. Schmitz, 1896:313**

Erythropeltis discigera (Berthold) F. Schmitz, 1896:313
 GULF OF CALIFORNIA DISTRIBUTION. IS: Isla
 Tiburón, ISG.
 TYPE LOCALITY. Gulf of Naples, Tyrrhenian Sea, SW
 coast of Italy.

***Erythrotrichia* Areschoug, 1850:435,
 nom. cons.**

Erythrotrichia ascendens E. Y. Dawson, 1953:6
 GULF OF CALIFORNIA DISTRIBUTION. WC:
 Cabo Pulmo, BCS.
 TYPE LOCALITY. Beach drift, on *Galaxaura*; about
 8.05 km N of Cabo Pulmo, Baja California Sur, Gulf of Califor-
 nia, Mexico.
 REMARKS. A southern Gulf endemic, *Erythrotrichia*
ascendens is a little-known species. Although this tropical species
 was considered a synonym of *E. carnea* by Garbary et al. (1981),
 its taxonomic status needs reinvestigation.

Erythrotrichia biseriata Tak. Tanaka, 1944:86
 GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto
 Libertad to Mazatlán, SIN. WC: Bahía de Las Ánimas, BC.
 TYPE LOCALITY. Hachijō-jima (Hatidyō Island), Izu
 Islands (Fuji-Hakone-Izu National Park), Japan, Philippine Sea.

Erythrotrichia carnea (Dillwyn) J. Agardh, 1883:15
 GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda,
 SON, to Bahía de Banderas, JAL. WC: Playa El Coloradito, BC,
 to Punta Los Frailes, BCS. IS: Isla Tiburón, ISG.
 TYPE LOCALITY. Mouth of Loughor River, Glamor-
 ganshire (Loughor), Wales, UK. EPITYPE. Port Eynon, Gower,
 Wales, UK.

Erythrotrichia carnea f. *tenuis* Tak. Tanaka, 1944:92
 GULF OF CALIFORNIA DISTRIBUTION. WC:
 Cabo Pulmo, BCS.

SYNTYPE LOCALITIES. Tanaka (1944) listed 7 locales from 3 countries—Japan: Yonakuni-sima, Yonaguni Island, Yaeyama Islands (SW Okinawa Prefecture), Makurazaki, Kyūshū (Kagoshima Prefecture), Takamatu, Shikoku Island (Kagawa Prefecture), Fukue Island, Gotō Islands (Nagasaki Prefecture), and Hinomisaki, Izumo (Shimane Prefecture); Taiwan: Cape Garanbi, Hengchun Peninsula, Pingtung (Píngdōng) County; and Micronesia: Pohnpei (Ponape), Senyavin Islands, Caroline Islands.

Erythrotrichia parksii var. *minor* N. L. Gardner, 1927a:239

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON.

TYPE LOCALITY. Neah Bay, Makah Reservation, Olympic Peninsula, Clallam County, Washington, USA.

Erythrotrichia tetraseriata N. L. Gardner, 1927a:240

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: La Paz, BCS. IS: Isla Tiburón, ISG; Islas de Los Gemelos, BC.

TYPE LOCALITY. On the seagrass *Zostera marina* Linnaeus; San Pedro, Los Angeles County, southern California, USA.

***Porphyrostromium* Trevisan, 1848:100**

Porphyrostromium boryanum (Montagne) P. C. Silva, in Silva et al., 1996:914

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON.

TYPE LOCALITY. Fort des Anglais, Algiers, Algeria.

Porphyrostromium ciliare (Carmichael ex Harvey) M. J. Wynne, 1986:329

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Tiburón, ISG.

TYPE LOCALITY. Appin, Argyll, Scotland, UK.

***Sahlingia* Kornmann, 1989:227**

Sahlingia subintegra (Rosenvinge) Kornmann, 1989:227

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Puerto Vallarta, JAL. WC: Faro de San Felipe, BC, to Cabeza Ballena, BCS. IS: Isla Turner and Isla Estanque, ISG; Isla Tortuga, BCS.

TYPE LOCALITY. Møllegaard, off Hirtshals, Skagerrak, northern Denmark.

EURHODOPHYTINA G. W. SAUNDERS ET HOMMERSAND, 2004:1503

BANGIOPHYCEAE WETTSTEIN, 1901:187

BANGIALES NÄGELI, 1847:136

BANGIACEAE DUBY, 1830:985

***Bangia* Lyngbye, 1819:18**

Bangia enteromorphoides E. Y. Dawson, 1953:13

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN. WC: Punta La Gringa, Bahía de Los Ángeles, BC.

TYPE LOCALITY. Epiphytic on *Gelidium sclerophyllum*; north of El Faro de Olas Atlas, Mazatlán, Sinaloa, Gulf of California, Mexico.

Bangia vermicularis? Harvey, 1858:55

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN. WC: Calerita to Punta Arena, BCS. IS: Isla Partida, ISG.

TYPE LOCALITY. Golden Gate, westernmost entrance to San Francisco Bay (locale probably now below the Golden Gate Bridge either at Fort Point or the San Francisco Presidio), San Francisco, San Francisco County, northern California, USA.

REMARKS. Norris (2014) queried identification of *Bangia vermicularis*? in the Gulf, and it needs to be tested.

PORPHYRALES KJELLMAN, 1880:7

PORPHYRACEAE KÜTZING, 1843:382

***Pyropia* J. Agardh, 1899:149**

REMARKS. *Pyropia* and *Porphyra* C. Agardh (1824) are often treated within the Bangiales and Bangiaceae, however Athanasiadis (2016a) recognized them as members of this order and family. The *Conchocelis*-phase, known in culture of the Gulf *P. hollenbergii* (López-Vivas et al., 2011), has not yet been found in nature for any of the reported species of *Pyropia* in the Gulf of California.

Pyropia hollenbergii (E. Y. Dawson) J. E. Sutherland, L. E. Aguilar-Rosas et R. Aguilar-Rosas, in Sutherland et al., 2011:1143

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Bacoachibampo, SON. WC: Punta Chivato to Punta Arena, BCS. IS: Isla San Ildefonso, BCS.

TYPE LOCALITY. Bahía Agua Verde, Baja California Sur, Gulf of California, Mexico.

REMARKS. A Gulf endemic, *P. hollenbergii* was not recently found in Sonora or Sinaloa but reported on the Gulf coast of Baja California Sur (López-Vivas et al., 2015). The *Conchocelis*-phase, while known in culture studies of *P. hollenbergii* (López-Vivas et al., 2011), has not yet been found in natural habitats.

Pyropia lanceolata (Setchell et Hus) S. C. Lindstrom, in Sutherland et al., 2011:1144

GULF OF CALIFORNIA DISTRIBUTION. WC: Nopoló to Puerto Escondido, BCS.

LECTOTYPE LOCALITY. Land's End, Golden Gate National Recreation Area (westernmost entrance to San Francisco Bay), San Francisco, San Francisco County, northern California,

USA (Lindstrom and Cole, 1992:435). Note that the lectotype of Krishnamurthy (1972:34) from Carmel Bay, Monterey County, central California, was rejected by Lindstrom and Cole (1992).

Pyropia pendula (E. Y. Dawson) J. E. Sutherland, L. E.

Aguilar-Rosas et R. Aguilar-Rosas, in Sutherland et al., 2011:1144

GULF OF CALIFORNIA DISTRIBUTION. WC: Calerita to Los Planes, BCS. IS: Isla Patos, Isla Partida (Isla Cordonazo), and Isla San Pedro Mártir, ISG; Isla San Pedro Nolasco, SON; Isla Carmen, Isla San José, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Isla Partida [norte] (Isla Cordonazo), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. *Pyropia pendula* is a Gulf endemic.

Pyropia perforata (J. Agardh) S. C. Lindstrom, in Sutherland et al., 2011:1144

GULF OF CALIFORNIA DISTRIBUTION. WC: Calerita, Bahía de La Paz, BCS.

TYPE LOCALITY. Near the Golden Gate entrance to San Francisco Bay (locale probably now below the Golden Gate Bridge either at Fort Point or the San Francisco Presidio), San Francisco, San Francisco County, northern California, USA.

Pyropia thuretii (Setchell et E. Y. Dawson) J. E. Sutherland, L. E. Aguilar-Rosas et R. Aguilar-Rosas, in Sutherland et al., 2011:1145

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada Bacoahibampo, SON, to Playa Olas Altas, SIN. WC: Punta San Felipe, BC, to Bahía de La Paz, BCS. IS: Rocas Consag, BC; Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, and Isla Partida (Isla Cordonazo), ISG; Isla Carmen, and Isla Danzante, BCS.

TYPE LOCALITY. Pacific Grove, Monterey County, central California, USA.

Pyropia sp. GCI of López-Vivas et al., 2015:tbl. 2, fig. 3

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Las Galeras to Punta Arenas, BCS. IS: Isla San José, and Isla Espíritu Santo, BCS.

REMARKS. One of three undescribed species that were considered to be southern Gulf endemics (López-Vivas et al., 2015).

Pyropia sp. GCII of López-Vivas et al., 2015:tbl. 2, fig. 3

GULF OF CALIFORNIA DISTRIBUTION. WC: Las Cruces, BCS.

REMARKS. This undescribed species was identified as a southern Gulf endemic (López-Vivas et al., 2015).

Pyropia sp. GCIII of López-Vivas et al., 2015:tbl. 2, fig. 2

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Patos, ISG; Isla el Choyero, and Isla San Pedro Nolasco, SON.

REMARKS. The third southern Gulf endemic species (López-Vivas et al., 2015), it is also currently undescribed.

FLORIDEOPHYCEAE CRONQUIST, 1960:438

HILDENBRANDIOPHYCIDAE G. W. SAUNDERS ET HOMMERSAND, 2004:1504

HILDENBRANDIALES PUESCHEL ET K. M. COLE, 1982:718

HILDENBRANDIACEAE RABENHORST, 1868:408

Hildenbrandia Nardo, 1834:676

Hildenbrandia dawsonii (Ardre) Hollenberg, 1971:286

GULF OF CALIFORNIA DISTRIBUTION. EC: Cabo Corrientes, JAL.

TYPE LOCALITY. Punta Malamarrimo, Bahía Sebastián Vizcaíno, Pacific coast of Baja California, Mexico.

Hildenbrandia prototypus Nardo, 1834:676

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Calerita to Cabeza Ballena, BCS. IS: Isla Turner, ISG; Isla Carmen, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. Venice, Veneto region, Adriatic Sea, northeast Italy.

Hildenbrandia rubra (Sommerfelt) Meneghini, 1841:426

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, SON, to Puerto Vallarta, JAL. WC: Campo Hawaii, BC, to Cabeza Ballena, BCS. IS: Isla Larga, NAY.

TYPE LOCALITY. Saltdal, Nordland, Norway.

NEMALIOPHYCIDAE T. A. CHRISTENSEN, 1978:66

ACROCHAETIALES FELDMANN, 1953:11

ACROCHAETIACEAE FRITSCH EX W. R. TAYLOR, 1957:209

Acrochaetium Nägeli, in Nägeli and C. E. Cramer, 1858:532

Acrochaetium arcuatum (K. M. Drew) C. K. Tseng, 1945:158

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Turner, ISG.

TYPE LOCALITY. Moss Beach, San Mateo County, central California, USA.

Acrochaetium bornetii Papenfuss, 1945:313

GULF OF CALIFORNIA DISTRIBUTION. WC: Puertecitos, BC.

TYPE LOCALITY. Belle-Ile-en-Mer, Morbihan, Brittany, northwest France.

Acrochaetium crassipes (Børgesen) Børgesen, 1915:20

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. IS: Isla Turner and Isla Rasa (with a query), ISG.

TYPE LOCALITY. Harbor, St. Thomas, U.S. Virgin Islands, Caribbean Sea.

Acrochaetium microscopicum (Nägeli ex Kützinger) Nägeli, in Nägeli and Cramer, 1858:532

GULF OF CALIFORNIA DISTRIBUTION. EC: Piedras del Burro to Puerto Peñasco, SON. WC: Playa El Coloradito, BC, to Punta Arena, BCS. IS: Isla Turner, ISG.

TYPE LOCALITY. Torquay, Devon, England, UK (Hamel, 1928; Woelkerling, 1972; Athanasiadis, 1996b). Although Kützinger (1849:640) gave type locality as “In sinu neapolitano” (Silva et al., 1996, as Golfo di Napoli, Italy), there are no known type collections from the Bay of Naples (see Hamel, 1928; Guiry and Guiry, 2014).

Acrochaetium secundatum (Lyngbye) Nägeli, in Nägeli and Cramer, 1858:532

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Bacoichibampo, SON.

TYPE LOCALITY. Kvivig (Kvivik), Streymoy Island, Faroe Islands (Faeroe; Foroyar), Faro County, Denmark.

Acrochaetium seriaspora (E. Y. Dawson) J. N. Norris, 2014:43

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Turner, ISG.

TYPE LOCALITY. Epiphytic on *Sargassum*, intertidal rock reef; Isla Turner (off SE end of Isla Tiburón), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

***Rhododrewia* S. L. Clayden et G. W. Saunders, 2014:229**

Rhododrewia porphyrae (K. M. Drew) S. L. Clayden et G. W. Saunders, 2014:230

GULF OF CALIFORNIA DISTRIBUTION. WC: Puerto Calamajué, BC.

TYPE LOCALITY. Endo-epiphytic on *Porphyra perforata* (now *Pyropia perforata*) (J. Agardh) S.C. Lindstrom; Land's End, Golden Gate National Recreational Area (westernmost entrance to San Francisco Bay), San Francisco, San Francisco County, northern California, USA.

REMARKS. Previously recorded in the Gulf as *Acrochaetium porphyrae* (K. M. Drew) G. M. Smith (1944).

COLACONEMATALES J. HARPER ET G. W. SAUNDERS, 2002:471

COLACONEMATACEAE J. HARPER ET G. W. SAUNDERS, 2002:471

***Colaconema* Batters, 1896:8**

Colaconema daviesii (Dillwyn) Stegenga, 1985:317

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Puerto Vallarta, JAL. IS: Isla de la Piedra, SIN.

TYPE LOCALITY. Probably north Wales, UK (Dixon and Irvine, 1977b).

Colaconema hancockii (E. Y. Dawson) J. N. Norris, 2014:45

GULF OF CALIFORNIA DISTRIBUTION. WC: La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. On *Gelidium*, rocky shore; west side of Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Colaconema pacificum (Kyllin) Woelkerling, 1971:47

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Mazatlán, SIN. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Brown Island (ENE of Friday Harbor, San Juan Island), San Juan County, Puget Sound, Washington, USA (Abbott and Hollenberg, 1976).

Colaconema pectinatum (Kyllin) J. T. Harper et G. W. Saunders, 2002:473

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

SYNTYPE LOCALITIES. Varberg, Hogardsgrund, and Kungsbackafjorden (Kungsbacka Fjord), Halland County, west coast of Sweden.

Colaconema punctatum (E. Y. Dawson) J. N. Norris, 2014:48

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Bahía Bacoichibampo, SON.

TYPE LOCALITY. Southern shore, Bahía Bacoichibampo, Sonora, Gulf of California, Mexico.

Colaconema savianum (Meneghini) R. Nielsen, 1994:715

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON. WC: Puertecitos, BC, to Punta Arena, BCS.

TYPE LOCALITY. On seagrass, *Zostera*; Genoa (Genova), Gulf of Genoa, northern end of Ligurian Sea, Province of Genoa, Italy.

Colaconema scinaiae (E. Y. Dawson) J. N. Norris, 2014:48

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Ensenada de San Francisco, SON. WC: Bahía de Loreto to Punta Los Frailes, BCS.

TYPE LOCALITY. Epiphytic on *Scinaia articulata*, dredged to 30–40 m depths; off north end of Santa Barbara Island (33°30'58"N; 119°50'W), Santa Barbara County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

Colaconema sinicola (E. Y. Dawson) J. N. Norris, 2014:49

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Turner, ISG.

TYPE LOCALITY. Isla Turner (off SE end of Isla Tiburón), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Colaenema tenuissimum (Collins) Woelkerling, 1971:51

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON.

TYPE LOCALITY. San Pedro Harbor entrance, San Pedro, Los Angeles County, southern California, USA.

Colaenema variabile (K. M. Drew) J. N. Norris, 2014:50

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN.

TYPE LOCALITY. Epiphytic on *Laminaria andersonii* (now *L. setchellii* P. C. Silva); Cypress Point, Monterey County, central California, USA.

NEMALIALES F. SCHMITZ, 1892:17

GALAXAURACEAE P. G. PARKINSON, 1983:606

Dichotomaria Lamarck, 1816:143

Dichotomaria marginata (J. Ellis et Solander) Lamarck, 1816:146

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Punta Cirio, SON. WC: Caleta Santa María to Punta Los Frailes, BCS. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. "On the shore of one of the Bahama Islands" (Ellis and Solander, 1786:115); lectotype: illustration of Ellis and Solander (1786, pl. 22: fig. 6) selected by Papenfuss et al. (1982).

Dichotomaria spathulata (Kjellman) A. Kurihara et Huisman, in Huisman and Kurihara, 2006:21

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Punta Cirio, SON. WC: Loreto to Cabo San Lucas, BCS.

TYPE LOCALITY. Fremantle, Western Australia, Australia.

Galaxaura J. V. Lamouroux, 1812:185

Galaxaura ramulosa Kjellman, 1900:50

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to "Nuevo Guaymas," Bahía de San Carlos, SON.

TYPE LOCALITY. [Probably Recife], state of Pernambuco, northeastern Brazil.

Galaxaura rugosa (J. Ellis et Solander) J. V. Lamouroux, 1816:263

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Bahía de San Carlos, SON. WC: Bahía Concepción to Cabeza Ballena, BCS.

TYPE LOCALITY. Coast of Jamaica, Greater Antilles, Caribbean Sea.

Tricleocarpa Huisman et Borowitzka, 1990:164

Tricleocarpa cylindrica (J. Ellis et Solander) Huisman et Borowitzka, 1990:164

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Bahía Kino, SON; Playa Guayabitos and Playa Las Peñas, NAY. WC: Bahía Concepción to Cabeza Ballena, BCS. IS: Isla Tiburón, ISG; Isla Tortuga, BCS; Isla María Madre, NAY.

TYPE LOCALITY. West Indies (Ellis and Solander, 1786); lectotype: illustration of Ellis and Solander (1786, pl. 22: fig. 4) selected by Papenfuss et al. (1982).

Tricleocarpa fragilis (Linnaeus) Huisman et R. A. Townsend, 1993:100

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Lo de Marcos y Playa San Francisco, NAY. WC: El Faro de San Felipe, BC, to Bahía de La Paz, BCS.

TYPE LOCALITY. "Oceano Americano" (Linnaeus, 1758).

LECTOTYPE LOCALITY. Jamaica, Greater Antilles, Caribbean Sea (Huisman and Townsend, 1993).

LIAGORACEAE KÜTZING, 1843:321

Dermonema Harvey ex Heydrich, 1894:289

Dermonema pulvinatum (Grunow et Holmes) K.-C. Fan, 1962:336

GULF OF CALIFORNIA DISTRIBUTION. WC: Loreto to Bahía Agua Verde, BCS.

TYPE LOCALITY. "Ad litora Japoniae" (Holmes, 1896:259).

Dermonema virens (J. Agardh) Pedroche et Ávila-Ortiz, 1996:77

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN. WC: Bahía de La Paz to Cabeza Ballena, BCS. IS: Isla San Ildefonso, Isla Cholla, and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. San Agustín (St. Augustín), Bahías de Huatulco, Oaxaca, Mexico.

Ganonema K.-C. Fan et Y.-C. Wang, 1974:492

Ganonema farinosum (J. V. Lamouroux) K.-C. Fan et Y.-C. Wang, 1974:492

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta San Evaristo to Punta Los Frailes, BCS. IS: Isla San Diego, BCS.

TYPE LOCALITY. Near Suez, Egypt, Red Sea.

Helminthora J. Agardh, 1851:415, *nom. cons.*

Helminthora sp. of Mateo-Cid and Mendoza-González, 1992:19

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Guayabitos and Playa Las Peñas, NAY.

Izziella Doty, 1978:34*Izziella orientalis* (J. Agardh) Huisman et Schils, 2002:247

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada Lalo, SON; Playa Guayabitos, NAY, to Bahía de Banderas, JAL. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Sir Lanka (Ceylon), Indian Ocean.

Liagora J. V. Lamouroux, 1812:185*Liagora abbottiae* E. Y. Dawson, 1953:41

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Punta Santa Rosalita ("Punta Santa Rosalía" of Dawson, 1953), Pacific coast of Baja California, Mexico.

Liagora californica Zeh, 1912:271

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Santa Catalina Island, Los Angeles County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

Liagora ceranoides J. V. Lamouroux, 1816:239

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación to Playa Las Conchas, Puerto Peñasco, SON. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. St. Thomas, U.S. Virgin Islands, Leeward Islands, Lesser Antilles, Caribbean Sea.

Liagora ceranoides f. *leprosa* (J. Agardh) Yamada, 1938:155

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Veracruz [port city], Veracruz [state], Gulf of Mexico, Mexico.

Liagora magniinvoluta E. Y. Dawson, 1953:39

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Arenosa, Puerto Peñasco, SON. WC: Loreto to Cabeza Ballena, BCS. IS: Isla San Diego and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. Cabeza Ballena, Baja California Sur, Gulf of California, Mexico.

**SCINAIACEAE HUISMAN, J. T. HARPER
ET G. W. SAUNDERS, 2004:228****Scinaia Bivona-Bernardi, 1822:232***Scinaia confusa* (Setchell) Huisman, 1985:417

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON, to Bahía de Banderas, JAL. EC: Bahía San Luis Gonzaga, BC, to Punta Los Frailes, BCS. IS: Isla Ángel de la Guarda, ISG; Isla Coronado, BC.

TYPE LOCALITY. Monterey, Monterey County, central California, USA.

Scinaia interrupta (A. P. de Candolle) M. J. Wynne, 1989:131

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pericos, BCS.

TYPE LOCALITY. Rade de Brest, Department of Finistère, Brittany, northwest France.

REMARKS. *Scinaia interrupta*, described from Brittany, France, was recently reported in the southern Gulf of California (León-Cisneros et al., 2009), and its crustose-phase was reported from British Columbia (Le Gall and Saunders, 2010). Finding it in the eastern Pacific suggests the eastern Atlantic *S. interrupta* could be an introduced species or possibly has been overlooked in its natural range.*Scinaia johnstoniae* Setchell, 1914:97

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Playa El Coloradito, BC, to Punta Los Frailes, BCS. IS: Isla Mejía, Isla Ángel de la Guarda, Isla Tiburón, Isla San Esteban, and Isla San Pedro Mártir, ISG; Isla Coronado, BC; Isla Carmen, Isla Espíritu Santo, and Canal de San Lorenzo, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. San Pedro, Los Angeles County, southern California, USA.

Scinaia latifrons M. Howe, 1911:500

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Bahía de Los Ángeles, BC, to Punta Perico, BCS. IS: Isla San Luis Gonzaga, Isla Coronado, Islas de Los Gemelos, and Isla La Ventana, BC; Puerto Refugio, Isla Ángel de la Guarda, and Isla Tiburón, ISG; Isla San José, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. Near La Paz, Baja California Sur, Gulf of California, Mexico.

**PALMARIALES GUIRY ET D. E. G. IRVINE,
IN GUIRY, 1978:138****RHODOPHYSEMATAEAE G. W. SAUNDERS
ET J. McLACHLAN, 1990:20****Rhodonematella Clayden et
G. W. Saunders, 2010:297***Rhodonematella subimmersa* (Setchell et N. L. Gardner) Clayden et G. W. Saunders, 2010:297

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Las Ánimas, BC. IS: Isla San Esteban, ISG.

TYPE LOCALITY. Endo-epiphyte on *Grateloupia doryphora* (Montagne) M. Howe; Whidbey (Whidby) Island, Island County, Puget Sound, Washington, USA.

**CORALLINOPHYCIDAE L. LE GALL ET
G. W. SAUNDERS, 2007:1129**

CORALLINALES P. C. SILVA ET JOHANSEN, 1986:250

**CORALLINALES SUBORD. CORALLININEAE
ATHANASIADIS, 2016a:272**

CORALLINACEAE J. V. LAMOUROUX, 1812:185

**CORALLINACEAE SUBFAM. CORALLINOIDEAE
S. F. GRAY, 1821:318**

***Crusticorallina* K. R. Hind et P. W. Gabrielson,
in Hind et al., 2016:[6](e-version)/932(print)**

REMARKS. *Crusticorallina* is the first crustose (nonarticulated) genus recognized to belong in C. subfam. Corallinoideae.

Crusticorallina muricata (Foslie) P. W. Gabrielson, Martone, K. R. Hind et C. P. Jensen, in Hind et al., 2016:[8](e-version)/934(print)

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. WC: Bahía Concepción, BCS.

TYPE LOCALITY. Botany Beach, Port Renfrew, Vancouver Island, British Columbia, Canada.

REMARKS. A northeast Pacific species, *Crusticorallina muricata* had been earlier recorded in the southern Gulf of California as *Pseudolithophyllum muricatum* (Foslie) Steneck et R. T. Paine (1986). Hind et al. (2016) noted specimens previously identified as *P. muricatum* may be this or possibly another species. It is unlikely that *Crusticorallina muricata* occurs in the Gulf, and the Gulf "*P. muricatum*" along with Gulf *Lithothamnion lichenare* need to be reexamined and molecularly analyzed to resolve their identities (see also Remarks under *Lithothamnion lichenare*).

CORALLINOIDEAE TRIBE CORALLINEAE NACCARI, 1828:105

***Corallina* Linnaeus, 1758:646, 805**

Corallina officinalis var. *chilensis* (Decaisne in Harvey) Kützinger, 1858:32

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Bahía Kino, SON.

TYPE LOCALITY. Valparaíso, Valparaíso Province, central Chile.

Corallina pinnatifolia (Manza) E. Y. Dawson, 1953:124

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: San Felipe, BC, to Calerita, BCS. IS: Isla Alcatraz, SON.

TYPE LOCALITY. Rocky reef; Doheny State Beach, Dana Point, Orange County, southern California, USA.

Corallina pinnatifolia var. *digitata* E. Y. Dawson, 1953:125

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Punta Colorado (vic. Guaymas), SON. WC: El Solitario, Bahía Agua Verde to Calerita, BCS. IS: Isla Turner, ISG.

TYPE LOCALITY. Punta Colorado, vicinity of Guaymas, Sonora, Gulf of California, Mexico.

Corallina polysticha E. Y. Dawson, 1953:131

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Pelicano, Bahía Kino, SON.

TYPE LOCALITY. About 4 km N of South Bluff, Isla Guadalupe, off Pacific coast of Baja California, Mexico.

Corallina vancouveriensis Yendo, 1902b:719

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: El Machorro, BC, to Bahía la Ventana, BCS. IS: Isla Pelicano, SON.

TYPE LOCALITY. Port Renfrew, Vancouver Island, British Columbia, Canada.

***Bossiella* P. C. Silva, 1957:46**

REMARKS. On the basis of our current understanding of Gulf of California species, it is doubtful that this genus occurs in the Gulf.

Uncertain Record: *Bossiella californica* (Decaisne) P. C. Silva, 1957:46

REMARKS. Although recorded in the upper Gulf from Puerto Peñasco, SON (Martínez-Lozano et al., 1991), and southeastern Gulf from Puerto Viejo, Bahía Mazatlán, SIN (Sánchez-Vargas and Hendrickx, 1987), its presence in the Gulf of California needs to be verified.

Excluded Species: *Bossiella orbigniana* (Decaisne) P. C. Silva, 1957:47

REMARKS. Riosmena-Rodríguez and Woelkerling (2000) noted that the Gulf of California report of *B. orbigniana* from La Paz was based on an incorrectly labeled specimen.

**CORALLINOIDEAE TRIBE JANIEAE H. W. JOHANSEN
ET P. C. SILVA, 1978:414**

***Halitilon* (Decaisne) Lindley, 1846:26**

Halitilon roseum var. *verticillatum* (E. Y. Dawson) J. N. Norris, 2014:85

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. On intertidal rocks; Isla Guadalupe, off Pacific coast of Baja California, Mexico.

Jania J. V. Lamouroux, 1812:186*Jania adhaerens* J. V. Lamouroux, 1816:270

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Yelapa, JAL. WC: Playa El Coloradito, BC, to Cabo Pulmo, BCS. IS: Isla Ángel de la Guarda and Isla Estanque, ISG; Isla Carmen and Isla Espíritu Santo, BCS; Isla de Venados, SIN.

TYPE LOCALITY. “Mediterranee?” (Lamouroux, 1816:270).

Jania capillacea Harvey, 1853:84

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Punta Bufeo, BC, to Cabo San Lucas, BCS. IS: Isla Ángel de la Guarda and Isla Turner, ISG; Isla Partida [sur], BCS.

TYPE LOCALITY. Bahía Honda Key (Bahía Honda State Park), Florida Keys, Monroe County, Florida, USA.

Jania decussato-dichotoma (Yendo) Yendo, 1905:37

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Bahía Concepción to Punta Los Frailes, BCS. IS: Isla Cholla and Isla Carmen, BCS.

SYNTYPE LOCALITIES. Three locales in Japan (Yendo, 1902): Misaki, Sagami Bay (Kanagawa Prefecture), and Chiba Prefecture (formerly Boshū Province), both Honshū Island; and Hyūga, Miyazaki Prefecture (formerly Hiuga Province), Kyūshū Island.

Jania huertae Chávez-Barrera, 1972:133

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Pelicano, SON.

TYPE LOCALITY. SE of Isla Pelicano, near Bahía Kino, Sonora, Gulf of California, Mexico.

REMARKS. Mateo-Cid et al. (2013) noted the type specimen of *J. huertae* is missing, and locating the type material and new collection of topotype specimens with its characteristics are needed to clarify its taxonomic status.

Jania longiarthra E. Y. Dawson, 1953:119

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. IS: Isla Carmen and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Bahía San Gabriel, Isla Espíritu Santo, Baja California Sur, Gulf of California, Mexico.

Jania mexicana W. R. Taylor, 1945:197

GULF OF CALIFORNIA DISTRIBUTION. EC: Segundo Cerro Prieto, SON, to Bahía de Banderas, JAL. WC: Ensenada Ampe, BCS. IS: Isla Tiburón and Estero Punta Perla (on Isla Tiburón), ISG.

TYPE LOCALITY. Bahía de Petatlan, vicinity of Zihuatanejo, Guerrero, Mexico.

REMARKS. Although Silva et al. (1987) and Mateo-Cid et al. (2013) considered *J. mexicana* to be conspecific with

J. pacifica, Norris (2014) kept the two separate, commenting that critical comparisons were needed to test their phylogenetic and taxonomic status.

Jania pacifica Areschoug, 1852:556

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL. WC: Punta Gallito, BCS. IS: Isla Estanque, ISG; Isla Espíritu Santo and Isla Partida, BCS.

TYPE LOCALITY. Huatulco (Guatulco), 15°78'N, 96°27'W, Oaxaca, Mexico.

REMARKS. The relationship of *Jania pacifica* to *J. mexicana* requires further molecular and morphological study (see also Remarks above under *J. mexicana*).

Jania subpinnata E. Y. Dawson, 1953:115

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. On *Digenea simplex* (Wulfen) C. Agardh; Bahía de La Paz, Baja California Sur, Gulf of California, Mexico.

Jania tenella (Kützting) Grunow, 1874:42

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Bahía de Banderas, JAL. WC: Playa Santa Teresa, BC, to Cabo San Lucas, BCS. IS: Isla Rasa, ISG; Isla San Ildefonso and Isla Espíritu Santo, BCS.

SYNTYPE LOCALITIES. “In sinu neapolitano et ad oras mexicanas” (Kützting, 1858:41).

LECTOTYPE LOCALITY. Golfo di Napoli, Italy (Dawson, 1953).

Jania tenella var. *zacae* E. Y. Dawson, 1953:121

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, JAL. WC: Punta Cabeza de Mechudo, BCS. IS: Isla San Ildefonso, BCS.

TYPE LOCALITY. Epiphytic on *Padina*; Bahía Piedra de Blanca, Cantón de Nicoya, Provincia Guanacaste, Pacific coast of Costa Rica.

Jania unguolata f. *brevior* (Yendo) Yendo, 1905:38

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa El Corral, JAL.

TYPE LOCALITY. Chiba Prefecture (formerly Boshū Province), east coast of Honshū Island, Japan.

CORALLINACEAE SUBFAM. METAGONIOLITHOIDEAE
H. W. JOHANSEN, 1969:47

Harveyolithon A. Rösler, Perfectti, V. Peña et
J. Braga, 2016:424

Harveyolithon samoëense (Foslie) A. Rösler, Perfectti, V. Peña et J. C. Braga, 2016:425

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Pelicano, SON; Punta Mita to Las Cuevas, NAY.

TYPE LOCALITY. Satana, Savai'i Island, Western Samoa.

REMARKS. Upper Gulf specimens referred to this species (Mendoza-González and Mateo-Cid, 1986, as *Lithophyllum samoëense* Foslie, 1906; =*Hydrolithon samoëense* (Foslie) Keats et Y. M. Chamberlain, 1994; Maneveldt et al., 2015) need to be reexamined to verify their identifications.

LITHOPHYLLACEAE ATHANASIADIS, 2016a:292

LITHOPHYLLACEAE SUBFAM. LITHOPHYLLOIDEAE SETCHELL, 1943:143

REMARKS. Recognition of Corallinaceae subfam. Amphiroideae H. W. Johansen (1969) is problematic (Norris, 2014). Cabioch (1972) and later Athanasiadis (2016a) considered this subfamily to be Lithophyllaceae subfam. Lithophylloideae and placed *Amphiroa* in L. tribe Amphiroeae Cabioch.

LITHOPHYLLOIDEAE TRIBE AMPHIROEAE CABIOCH, 1972:266

***Amphiroa* J. V. Lamouroux, 1812:185**

Amphiroa beauvoisii J. V. Lamouroux, 1816:299

GULF OF CALIFORNIA DISTRIBUTION. EC: Piedras de la Salina, SON, to Bahía de Banderas, JAL. WC: Playa San Antonio, BC, to Cabo San Lucas, BCS. IS: Isla San Jorge, SON; Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Isla Tiburón, Isla Turner, and Isla San Pedro Mártir, ISG; Isla Colorado and Islas de Los Gemelos, BC; Isla Tortuga, Isla San Ildefonso, Isla Cholla, Isla Carmen, Isla Monserrate, Isla San Diego, Punta Prieta, Isla Partida, Bahía San Gabriel, Isla Espíritu Santo, and Isla Cerralvo, BCS; Isla Pelicano, SON; Isla de la Piedra, SIN; Isla María Magdalena, NAY.

TYPE LOCALITY. “Côtes du Portugal” (Lamouroux, 1816:299).

Amphiroa brevianiceps E. Y. Dawson, 1953:142

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON, to Puerto Vallarta, JAL. WC: Playa El Coloradito, BC, to Punta Los Frailes, BCS.

TYPE LOCALITY. Rocky shore, E of Salina Cruz, Oaxaca, Mexico.

Amphiroa compressa var. *tenuis* W. R. Taylor, 1945:191

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. Isla María Magdalena, Islas Marías, Nayarit, Gulf of California, Mexico.

Amphiroa foliacea J. V. Lamouroux, in Quoy and Gaimard, 1824:628

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. Mariana Islands, Micronesia.

EPITYPE LOCALITY. Sanctuary, Ningaloo Marine Park, NW coast of Western Australia, Australia (Harvey et al., 2013).

Amphiroa magdalenensis E. Y. Dawson, 1953:143

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN. WC: Punta Palmilla, BCS. IS: Isla Tortuga and Isla San Ildefonso, BCS.

TYPE LOCALITY. Rocky shore; Punta Entrada, Isla Magdalena (W side of Bahía Magdalena), Pacific coast of Baja California Sur, Mexico.

Amphiroa mexicana W. R. Taylor, 1945:189

GULF OF CALIFORNIA DISTRIBUTION. EC: Roca Roja, Bahía Kino, SON, to Puerto Vallarta, JAL. WC: Bahía de La Paz, BCS. IS: Isla Pelicano, SON.

TYPE LOCALITY. Bahía Petatlan, Guerrero, Mexico.

Amphiroa misakiensis Yendo, 1902a:14

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Puerto Vallarta, JAL. WC: Playa El Coloradito, BC, to Cabo San Lucas, BCS. IS: Isla Patos, Isla Partida (Isla Cordonazo) and Isla San Pedro Mártir, ISG; Isla San Ildefonso, Isla Cholla, and Isla Espíritu Santo, BCS; Isla María Cleofas and Isla Isabel, NAY.

TYPE LOCALITY. Misaki, Sagami Bay, Kanagawa Prefecture, Honshū Island, central Japan.

Amphiroa polymorpha Mc. Lemoine, 1930:74

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Los Cerritos, SIN, to Puerto Vallarta, JAL. WC: Eureka, BCS.

TYPE LOCALITY. Bahía Correos (Post Office Bay), Isla Floreana (Charles Island; Isla Santa María), Galápagos Islands, Ecuador.

Amphiroa rigida J. V. Lamouroux, 1816:297

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Mazatlán, SIN. EC: Bahía Concepción to Cabeza Ballena, BCS. IS: Islote La Ballena, Isla Espíritu Santo, and Isla Cerralvo, BCS; Isla de la Piedra, SIN.

TYPE LOCALITY. Mediterranean Sea.

Amphiroa taylorii E. Y. Dawson, 1953:138

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Puerto Vallarta, JAL. WC: Puerto Escondido to Cabeza Ballena, BCS. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. Intertidal rocks, Bahía Braithwaite, Isla Socorro, Islas Revillagigedo, Colima, Mexico.

Amphiroa valonioides Yendo, 1902a:5

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Playa El Coloradito, BC, to Cabeza Ballena, BCS. IS: Isla Coronado, BC; Isla Patos and Isla Rasa, ISG; Isla Monserrate, Isla San Diego, Isla Partida, and Isla Espíritu Santo, BCS; Isla María Magdalena, NAY.

SYNTYPE LOCALITIES. Two locales in Japan (Yendo, 1920): Miyazaki Prefecture (formerly Hiuga Province; Hyūga),

Kyūshū Island, and Misaki, Sagami Bay, Kanagawa Prefecture, Honshū Island.

***Amphiroa subcylindrica* E. Y. Dawson, 1953:139**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Playa El Coloradito, BC, to Cabeza Ballena, BCS. IS: Isla San Luis Gonzaga, and Isla Coronado, BC; Isla Patos, Isla Tiburón, Isla Turner, Isla San Esteban, and Isla San Pedro Mártir, ISG; Isla San Pedro Nolasco, SON; Isla San Ildefonso, Isla Monserrate, Isla Espíritu Santo, and Isla Partida, BCS.

TYPE LOCALITY. Rocky shore; Punta Colorado (near Guaymas), Sonora, Gulf of California, Mexico.

REMARKS. Although treated as synonym of *A. vanbosseae* Me. Lemoine (1930; type locality: Isla Floreana, Galápagos; see Norris, 2014), the two are considered separate until genetic analysis of the types tests their species status.

Uncertain Record: *Amphiroa curreae* Ganesan, 1971:155

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY.

REMARKS. Reported from Nayarit with a query (Mateo-Cid and Mendoza-González, 1992); its identification has also been questioned by Serviere-Zaragoza et al. (1993).

Uncertain Record: *Amphiroa franciscana* W. R. Taylor, 1945:187

GULF OF CALIFORNIA DISTRIBUTION. EC: Segundo Cerro Prieto, SON.

REMARKS. Reported in the northern Gulf from Bahía Kino (Mendoza-González and Mateo-Cid, 1986), its presence in the Gulf needs confirmation.

**LITHOPHYLLOIDEAE TRIBE DERMATOLITHEAE CABIOCH,
1972:266**

***Titanoderma* Nägeli, in Nägeli
and C. E. Cramer, 1858:532**

Titanoderma canescens (Foslie) Woelkerling, Y. M. Chamberlain et P. C. Silva, 1985:333

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Colorado (vic. Guaymas), SON, to Mazatlán, SIN. IS: Isla Turner, ISG; Isla de Venados, SIN.

TYPE LOCALITY. On *Padina arborescens*; [Manazuru] Marine Laboratory, Kanagawa Prefecture (formerly Sagami Province), Honshū Island, Japan.

Titanoderma dispar (Foslie) Woelkerling, Y. M. Chamberlain et P. C. Silva, 1985:333

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Bahía de Banderas, JAL. WC: Puertecitos, BC, to Cabeza Ballena, BCS.

TYPE LOCALITY. On *Ahnfeltiopsis gigartinoides*; Whidbey (Whidby) Island, Island County, Puget Sound, Washington, USA.

Titanoderma pustulatum (J. V. Lamouroux) Nägeli, in Nägeli and C. E. Cramer, 1858:532

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON.

TYPE LOCALITY. France.

Titanoderma confine (P. Crouan et H. Crouan) Price, John et Lawson, 1986:86

Titanoderma pustulatum var. *confine* (P. Crouan et H. Crouan) Y. M. Chamberlain, 1991:50

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON.

TYPE LOCALITY. Presumably near Brest, Finistère, France (Chamberlain, 1991).

**LITHOPHYLLOIDEAE TRIBE LITHOPHYLLEAE ZANARDINI,
1844:1035**

***Lithophyllum* Philippi, 1837:387**

Lithophyllum? brachiatum (Heydrich) Me. Lemoine, 1930:44

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. La Paz, Bahía de La Paz, Baja California Sur, Gulf of California, Mexico.

REMARKS. A Gulf of California species, *Lithophyllum brachiatum* was excluded from the genus *Lithophyllum* by Riosmena-Rodríguez et al. (1999). Although its generic placement remains uncertain, Riosmena-Rodríguez and Woelkerling (2000) noted the species belongs in either the Spongitiaceae subfam. Mastophoroideae or Hapalidiaceae subfam. Melobesioideae.

Lithophyllum? californiense Heydrich, 1901:530

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. La Paz, Bahía de La Paz, Baja California Sur, Gulf of California, Mexico.

REMARKS. A Gulf of California species, *Lithophyllum californiense* was excluded from the genus *Lithophyllum* by Riosmena-Rodríguez et al. (1999). Although Riosmena-Rodríguez and Woelkerling (2000) noted the species to be a member of the Hapalidiaceae subfam. Melobesioideae, its generic placement is unresolved.

Lithophyllum corallinae (P. Crouan et H. Crouan) Heydrich, 1897b:47

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Playa La Rumorosa, Bahía de Chamela, JAL. WC: Cabeza Ballena, BCS.

TYPE LOCALITY. Banc du Chateau et Baie de la Ninon, Rade de Brest, France (Chamberlain, 1991).

Lithophyllum diguetii (Hariot) Heydrich, 1901:532

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN. WC: Santa Rosalía to Bahía de

La Paz, BCS. IS: Canal Mejía and Puerto Refugio, Isla Ángel de la Guarda, ISG; Canal de San Lorenzo, Isla Espíritu Santo, and Isla Partida, BCS.

TYPE LOCALITY. La Paz, Bahía de La Paz, Baja California Sur, Gulf of California, Mexico.

***Lithophyllum hancockii* E. Y. Dawson, 1944:268**

GULF OF CALIFORNIA DISTRIBUTION. EC: Las Peñas, NAY, to Melaque, JAL. WC: Bahía de La Paz, BCS. IS: Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Shallow water; Bahía San Gabriel, Isla Espíritu Santo, Baja California Sur, Gulf of California, Mexico.

***Lithophyllum imitans* Foslíe, 1909:13**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Yelapa, JAL. WC: Campo Hawaii, BC, to Cabeza Ballena, BCS. IS: Isla Alcatraz, SON; Isla Patos, ISG; Isla Espíritu Santo, BCS; Isla Isabel, NAY.

TYPE LOCALITY. Pacific Beach (between La Jolla and Mission Beach), near San Diego, San Diego County, southern California, USA.

***Lithophyllum lichenare* L. R. Mason, 1953:339**

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Puerto Vallarta, JAL. WC: Bahía Concepción, BCS.

TYPE LOCALITY. Lower intertidal; Kanaka Bay, southern coast of San Juan Island, San Juan County, Salish Sea, Washington, USA.

REMARKS. Hind et al. (2016) treated *Lithophyllum lichenare* L. R. Mason as conspecific with *Crusticorallina muricata* (Foslíe) P. W. Gabrielson, P. T. Martone, K. R. Hind et C. P. Jensen. Its identification in the southern Gulf needs to be verified.

***Lithophyllum margaritae* (Hartot) Heydrich, 1901:530**

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Chivato to Bahía del Rincón, Bahía de La Paz, BCS. IS: Isla Ángel de la Guarda, ISG; Isla Carmen, Isla Danzante, Isla San José, Canal de San Lorenzo, Isla San Espíritu Santo, and Isla San Juan Nepomuceno, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. Subtidal bank; off Isla San Juan Nepomuceno ("Nepomezeino"), about 4 km east from Pichilínque, Baja California Sur, Gulf of California, Mexico.

REMARKS. In a reinterpretation of *L. margaritae* as broadly defined by Riosmena-Rodríguez et al. (1999), Norris (2014) concluded that among the several taxa considered to be synonyms, there were at least three separate species, that is, *L. margaritae*, *L. diguetii* (Hartot) Heydrich, and *L. pallescens* (Foslíe) Foslíe. Recently, Hernández-Kantún et al. (2015) found molecular diversity within "*L. margaritae* sensu Riosmena-Rodríguez et al., 1999" was also very high, with two well-supported clades: "*L. margaritae* A" that subdivided into five hypothetical species and "*L. margaritae* B" that subdivided into two hypothetical species.

***Lithophyllum pallescens* (Foslíe) Foslíe, 1900:20**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Laguna de Agiabampo, SIN. WC: El

Machorro, BC, to Cabeza Ballena, BCS. IS: Isla Pelicano, SON; Isla Mejía and Puerto Refugio, Isla Ángel de la Guarda, ISG; Isla Carmen, laguna, Bahía San Gabriel and Canal de San Lorenzo, Isla Espíritu Santo, and Isla Partida, BCS.

TYPE LOCALITY. Subtidal bank; off west shore of Isla Espíritu Santo, Baja California Sur, Gulf of California, Mexico.

***Lithophyllum proboscideum* (Foslíe) Foslíe, 1900:18**

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Arenosa, Puerto Peñasco, to Mazatlán, SIN. WC: Playa El Coloradito, BC, to Bahía de La Paz, BCS. IS: Isla Partida, BCS.

TYPE LOCALITY. Dredged off Monterey, Monterey County, central California, USA.

***Lithophyllum* sp. 1 of Hernández-Kantún et al., 2014:334**

GULF OF CALIFORNIA DISTRIBUTION. WC: El Riquesón, BCS.

***Lithophyllum* sp. 2 of Hernández-Kantún et al., 2014:334**

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Espíritu Santo, BCS.

***Litholepis* Foslíe, 1905:5**

***Litholepis sonorensis* E. Y. Dawson, 1944:275**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to Calerita, BCS. IS: Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Dredged 12–25 m depths; Canal de San Lorenzo (off southern end of Isla Espíritu Santo), Baja California Sur, Gulf of California, Mexico.

REMARKS. A little-known southern Gulf species, *Litholepis sonorensis* was recently reported growing on *Lithophyllum* sp. from Calerita (Mendoza-González et al., 2015).

***Pseudolithophyllum* Me. Lemoine, 1913:45**

Uncertain Record: *Pseudolithophyllum neofarlowii* (Setchell et L. R. Mason) W. H. Adey, 1970:13

REMARKS. Although reported from San Felipe to Punta Palmilla (Norris, 2014), its presence in the Gulf of California is doubtful.

SPONGITIDACEAE KÜTZING, 1843:xxiii, 382, 385

**SPONGITIDACEAE SUBFAM. HYDROLITHOIDEAE
A. KATO ET M. BABA, IN KATO ET AL., 2011:669**

***Hydrolithon* (Foslíe) Foslíe, 1909:55**

***Hydrolithon chamaedoris* (Foslíe et M. Howe) M. J. Wynne, 2005:12, 81**

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de La Paz, BCS.

TYPE LOCALITY. On *Chamaedoris*; Cave Cays, Exuma Chain, Bahamas.

Hydrolithon farinosum (J. V. Lamouroux) D. Penrose et Y. M. Chamberlain, 1993:295

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda to Puerto Peñasco, SON. WC: Playa El Coloradito, BC, to Cabo San Lucas, BCS. IS: Isla Tiburón, ISG; Isla María Cleofas, NAY.

TYPE LOCALITY. Mediterranean.

Hydrolithon reinboldii (Weber-van Bosse et Foslie) Foslie, 1909:55

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Gallo and Isla Gallina (off W coast of Isla Espíritu Santo, BCS).

TYPE LOCALITY. Muaras Reef (Karana Muaras), atoll off coast of East Kalimantan (east Borneo), Indonesia.

***Fosliella* M. Howe, 1920:587**

Fosliella? *paschalis* (Me. Lemoine) Setchell et N. L. Gardner, 1930:176

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON, to Bahía de Banderas, JAL. WC: Bahía Concepción to Punta Palmilla, BCS. IS: Isla San Ildefonso, BCS.

TYPE LOCALITY. Hanga Piko, Rapa Nui (Easter Island), Province Isla de Pascua, Chile.

REMARKS. The generic placement of *F.?* *paschalis* need reinvestigation.

***Pneophyllum* Kützing, 1843:385**

Pneophyllum confervicola (Kützing) Y. M. Chamberlain, 1983:385

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. On *Conferva vasta* (now *Chaetomorpha aerea*); Trieste, Gulf of Trieste (northern Adriatic Sea), northeast Italy.

Pneophyllum conicum (E. Y. Dawson) Keats, Y. M. Chamberlain et Baba, 1997:264

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY to Bahía de Banderas, JAL. WC: Calerita to Cabo Pulmo, BCS.

TYPE LOCALITY. Intertidal reef; Bidders Cove, Isla Socorro, Islas Revillagigedo, Colima, Mexico.

Pneophyllum fragile Kützing, 1843:385

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Punta Arena to Cabo Pulmo, BCS.

TYPE LOCALITY. On *Sphaerococcus coronopifolius*; unknown locale in Mediterranean Sea (Chamberlain, 1983); Mediterranean Sea (Silva et al., 1996).

Pneophyllum nicholsii (Setchell et L. R. Mason) P. C. Silva et P. W. Gabrielson, in Gabrielson et al., 2004:94

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Playa El Coloradito, BC, to La Paz, BCS. IS: Isla Tiburón, ISG; Isla San Pedro Nolasco, SON.

TYPE LOCALITY. On *Dictyota binghamiae*; La Jolla, San Diego County, southern California, USA.

SPONGITIDACEAE SUBFAM. MASTOPHOROIDEAE SETCHELL, 1943:134

***Heteroderma* Foslie, 1909:56**

Heteroderma corallinicola E. Y. Dawson, 1944:273

GULF OF CALIFORNIA DISTRIBUTION. EC: Cabo Arco, SON.

TYPE LOCALITY. On *Corallina*; cove north of Cabo Arco, vicinity of Guaymas, Sonora, Gulf of California, Mexico.

Heteroderma gibbsii (Setchell et Foslie) Foslie, 1909:56

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Bahía de los Ángeles, BC, to San José del Cabo, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla Turner, ISG; Isla Coronado, BC; Isla San Pedro Nolasco, SON; Isla San José and Isla Espíritu Santo, BCS.

SYNTYPE LOCALITIES. Two island locales, both east of Bahía de La Paz (Foslie, 1909): epiphytic on *Sargassum* at Isla San José (25°00'N; 110°38'W) and on Isla Espíritu Santo (24°30'N; 110°22'W), Baja California Sur, Gulf of California, Mexico.

Heteroderma subtilissimum (Foslie) Foslie, 1909:56

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON. WC: Cabo Pulmo, BCS. IS: Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. On *Corallina pilifera* J. V. Lamouroux; reef off Atjatuning, west coast of New Guinea.

SPONGITIDACEAE SUBFAM. NEOGONIOLITHOIDEAE A. KATO ET M. BABA, IN KATO ET AL., 2011:669

***Neogoniolithon* Setchell et L. R. Mason, 1943a:92**

Neogoniolithon setchellii (Foslie) W. H. Adey, 1970:9

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. WC: Las Tarabillas to Cabo Pulmo, BCS. IS: Isla Partida, BCS.

TYPE LOCALITY. Uppermost intertidal; White Point, White Point Park, San Pedro, Los Angeles County, southern California, USA.

Neogoniolithon trichotomum (Heydrich) Setchell et L. R.

Mason, 1943a:92

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Puertecitos, BC, to Cabeza Ballena, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla Estanque, ISG; Isla Colorado, BC; Isla Cholla, Isla Carmen, Isla Monserrate, Isla Partida, and Bahía San Gabriel, Isla Espíritu Santo, BCS; Isla de Venados, SIN; Isla María Magdalena, NAY.

TYPE LOCALITY. Near La Paz, Baja California Sur, Gulf of California, Mexico (Heydrich, 1901).

SPONGITIDACEAE SUBFAM. POROLITHOIDEAE A. KATO ET M. BABA, IN KATO ET AL., 2011:669

REMARKS. Although the subfamily Porolithoideae is generally recognized (e.g., Maneveldt and Keats, 2014; Guiry and Guiry, 2016), it has recently been treated as a synonym of C. subfam. Metagoniolithoideae by Rösler et al. (2016).

***Porolithon* Foslie, 1909:57**

Porolithon onkodes (Heydrich) Foslie, 1909:57

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía del Rincón, BCS.

TYPE LOCALITY. Tami Island, northwest side of Gulf of Huon, Solomon Sea, Papua New Guinea.

REMARKS. *Porolithon onkodes* is one of the most widely distributed and ecologically important species of crustose coralline algae. Although found in many areas of the subtropical-tropical Indo-Pacific, South Pacific, eastern and western Pacific, and eastern and western Atlantic (e.g., Maneveldt and Keats, 2014), current records suggest it is probably not widespread in the Gulf of California.

Porolithon sonorensis E. Y. Dawson, 1944:273

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Playa El Coloradito, BC to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Patos, Bahía Agua Dulce, Isla Tiburón, Isla San Esteban, and Isla Partida (Isla Cordonazo), ISG; Isla Partida [sur], BCS.

TYPE LOCALITY. Rocky shore; on west side of Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

***Spongitis* Kützing, 1841:30**

Spongitis decipiens (Foslie) Y. M. Chamberlain, 1993:113

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Campo Hawaii to Bahía de Los Angeles, BC. IS: Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. On small stone; San Pedro, Los Angeles County, southern California, USA.

REMARKS. Most Gulf of California specimens referred to “*S. decipiens*” need to be reexamined (Norris, 2014). Chamberlain (1993) found some of Dawson’s (1960b) specimens were “*S. yendoi*.” Fragoso and Rodríguez (2002) later noted some of the Dawson specimens they studied were a *Hydrolithon*, and none belonged in the genus *Spongitis*.

Spongitis yendoi (Foslie) Y. M. Chamberlain, 1993:102

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Mazatlán, SIN. WC: Puerto San Felipe, BC, to Cabo San Lucas, BCS. IS: Isla Alcatraz, SON; Isla Ángel de la Guarda and Isla San Esteban, ISG; Bahía Salinas, Isla Carmen, BCS.

TYPE LOCALITY. Shimoda, Izu Peninsula, Shizuoka Prefecture, Honshū Island, Japan.

REMARKS. See also Remarks above under *Spongitis decipiens*.

Uncertain Record: *Spongitis fruticulosa* Kützing, 1841:30

REMARKS. Southern Gulf specimens cited by Dawson (1960b, as *Lithothamnion fruticulosum*) from Punta Los Frailes and Isla Carmen were later identified by Johansen (1976) as *Lithothamnion crassiusculum* (Foslie) L. R. Mason (now *Mesophyllum crassiusculum* (Foslie) Lebednik, in Athanasiadis et al., 2004). The presence of *Spongitis fruticulosa* in the Gulf needs to be verified.

**CORALLINALES SUBORD. MESOPHYLLINEAE
ATHANASIADIS, 2016A:213**

LITHOTHAMNACEAE H. J. HAAS, 1887 [1886]:213

**LITHOTHAMNACEAE SUBFAM. LITHOTHAMNIOIDEAE
FOSLIE, 1908:19**

**LITHOTHAMNIOIDEAE TRIBE LITHOTHAMNIEAE
FOSLIE, 1903:25**

***Lithothamnion* Heydrich, 1897a:412,
nom. cons.**

Lithothamnion australe Foslie, in Weber-van Bosse and Foslie, 1904:24

GULF OF CALIFORNIA DISTRIBUTION. WC: Guaymas, SON, to Laguna de Agiabampo, SIN. WC: Bahía Coyote to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG; Canal de San Lorenzo, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. “Gulf of California” (Weber-van Bosse and Foslie, 1904:24); “in the vicinity of La Paz, Baja California, probably on sublittoral banks” (Dawson, 1960b:11), Baja California Sur, Gulf of California, Mexico.

Lithothamnion australe f. *tualensis* Foslie, 1904:24

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. Tual (Kota Tual; Siboga Expedition station no. 258), Kai Kecil (Little Kai Island; Nuhu Roa), Kai Islands (Kei Islands; Nuhu Evav), SE part of Maluku Islands, Maluku Province, Indonesia.

Lithothamnion microsporum (Foslie) Foslie, 1929:51

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: San Felipe, BC.

TYPE LOCALITY. On pebbles and sandstone; Pacific Beach (between La Jolla and Mission Beach), San Diego County, southern California, USA.

Lithothamnion muelleri Lenormand ex Rosanoff, in Rosanoff, 1866:101

GULF OF CALIFORNIA DISTRIBUTION. WC: Cabo Los Machos to Calerita, BCS. IS: El Pardito-La Lobera, Isla San José, BCS.

TYPE LOCALITY. Western Port Bay, Victoria, Australia.

REMARKS. Identification of “*Lithothamnion muelleri*” in the Gulf needs to be verified (Norris, 2014). In their analysis Hernández-Kantún et al. (2015: fig. 14) found southern Gulf of California “*L. muelleri*” grouped weakly with another *Lithothamnion* from Fiji.

Lithothamnion phymatodeum Foslie, 1902:3

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY.

TYPE LOCALITY. “On rocks, upper sublittoral zone” (Woelkerling et al., 2005:470); Whidbey (Whidby) Island, Island County, Puget Sound, Washington, USA (Johansen, 1976).

Lithothamnion sp. 1 of Hernández-Kantún et al., 2014:335

GULF OF CALIFORNIA DISTRIBUTION. WC: San Esteban, Bahía de La Paz, BCS. IS: Canal de San Lorenzo, Isla Espíritu Santo, BCS.

Lithothamnion sp. 2 of Hernández-Kantún et al., 2014:335

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Pedro Mártir, ISG.

Lithothamnion sp. 3 of Hernández-Kantún et al., 2014:335

GULF OF CALIFORNIA DISTRIBUTION. WC: El Requesón, BCS.

Lithothamnion sp. 5 of Hernández-Kantún et al., 2014:335

GULF OF CALIFORNIA DISTRIBUTION. WC: San Esteban, Bahía de La Paz, BCS.

**LITHOTHAMNIOIDEAE TRIBE PHYMATOLITHEAE
ADEY ET JOHANSEN, 1972:160**

***Phymatolithon* Foslie, 1898:4, nom. cons.**

Phymatolithon sp. of Hernández-Kantún et al., 2014:336

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Pedro Mártir, ISG.

MESOPHYLLACEAE ATHANASIDAS, 2016A:251

***Mesophyllum* Me. Lemoine, 1928:251**

Mesophyllum crassiusculum (Foslie) Lebednik, in Athanasiadis et al., 2004:152

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC, to Bahía de Loreto, BCS. IS: Isla Carmen, BCS.

TYPE LOCALITY. White Point Beach (below Whites Point), White Point–Royal Palms County Park, San Pedro, Los Angeles County, southern California, USA.

Mesophyllum engelhartii (Foslie) W. H. Adey, 1970:23

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Perico and La Paz, BCS. IS: Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Cape Jaffa, on SE coast of South Australia, Australia.

REMARKS. Southern Gulf specimens identified as *Mesophyllum engelhartii* and another species, *M. erubescens* (Foslie) Me. Lemoine (1928) from Tenerife (Canary Islands), were paraphyletic, grouping with lineages of *Lithothamnion* and *Synarthrophyton* R. A. Townsend (1979) without generic limits (Hernández-Kantún et al., 2015: table 1, figs. 1–3, 17, 19). Athanasiadis (2017), studying *Lithothamnion engelhartii* Foslie (1900a), found two taxa among the type specimens, selected a lectotype, clarified its description, and noted that its morphological characters excluded it from *Lithothamnion* or *Mesophyllum* and also that it was affiliated with *Leptophytum* or may possibly belong to *Synarthrophyton*. The generic status of the lectotype of *L. engelhartii* remains uncertain and in need of further investigation.

Although identification of Gulf “*M. engelhartii*” remains unresolved, the Canary Islands *Mesophyllum erubescens* was included in a new genus as *Melyvonmea erubescens* (Foslie) Athanasiadis et D. L. Ballantine (2014).

**HAPALIDIALES W. E. NELSON, J. E. SUTHERLAND,
T. J. FARR ET H. S. YOON,
IN NELSON ET AL., 2015:464**

HAPALIDIACEAE J. E. GRAY, 1865:22

**HAPALIDIACEAE SUBFAM. CHOREONEMATOIDEAE
WOELKERLING, 1987:125**

**CHOREONEMATOIDEAE TRIBE CHOREONEMATEAE
FOSLIE EX SVEDELIUS, 1911:266**

***Choreonema* F. Schmitz, 1889:455**

Choreonema thuretii (Bornet) F. Schmitz, 1889:455

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Agua Verde to Cabeza Ballena, BCS.

TYPE LOCALITY. "On *Corallina*; Atlantic France" (Dawson, 1960b:30).

LECTOTYPE LOCALITY. Endo-epiphytic on *Haliptilon squamatum* (Linnaeus) H. W. Johansen, L. M. Irvine et A. M. Webster; Pointe de Querqueville, WNW of Cherbourg, Normandy, France (Woelkerling, 1987; Chamberlain and Irvine, 1994).

HAPALIDIACEAE SUBFAM. MELOBESIOIDEAE
BIZZOZERO, 1885:109

MELOBESIOIDEAE TRIBE MELOBESIEAE
ARESCHOUG, 1852:506

***Melobesia* J. V. Lamouroux, 1812:186**

Melobesia accola (Foslie) Mc. Lemoine, 1924:289

GULF OF CALIFORNIA DISTRIBUTION. EC: Barra de Navidad, JAL.

TYPE LOCALITY. Hao (Haorangi), coral atoll in central part of Tuamotu Archipelago (Tuamotus), east of Tahiti, French Polynesia, South Pacific.

REMARKS. A poorly known species (Dawson, 1960b, as *Litholepis accola*), *Melobesia accola* has not been recently collected in the Gulf. More collections are needed to study and confirm its identification in the Gulf of California.

Melobesia marginata Setchell et Foslie, in Foslie, 1902:10

GULF OF CALIFORNIA DISTRIBUTION. EC: Barra de Navidad, JAL. WC: Cabeza Ballena, BCS.

TYPE LOCALITY. On *Laurencia*; Bodega Bay, Sonoma County, northern California, USA.

Melobesia mediocris (Foslie) Setchell et L. R. Mason, 1943b:95

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN.

TYPE LOCALITY. On *Phyllospadix*; Santa Cruz, Santa Cruz County, northern California, USA.

Melobesia membranacea (Esper) J. V. Lamouroux, 1812:186

GULF OF CALIFORNIA DISTRIBUTION. EC: Barra de Navidad, JAL. WC: Cabeza Ballena, BCS.

TYPE LOCALITY. On red algae; west [Atlantic] coast of France.

Melobesia polystromatica E. Y. Dawson, 1960b:8

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY, to Barra de Navidad, JAL.

TYPE LOCALITY. On *Sargassum liebmannii*; Bahía Tenacatita, southern Jalisco, Mexico.

AHNFELTIOPHYCIDAE G. W. SAUNDERS
ET HOMMERSAND, 2004:1504

AHNFELTIALES C. A. MAGGS ET PUESCHEL, 1989:349

AHNFELTIACEAE C. A. MAGGS ET PUESCHEL, 1989:348

***Ahnfeltia* Fries, 1836:309, nom. cons.**

Ahnfeltia plicata (Hudson) Fries, 1836:310

GULF OF CALIFORNIA DISTRIBUTION. EC: El Colorado, SON, to Punta de Mita, NAY. WC: El Requesón to Cabo Pulmo, BCS. IS: Isla San José, BCS.

TYPE LOCALITY. "Habitat in littoribus marinis" (Hudson, 1762:470); dwells on marine shores, England, UK (Guiry and Guiry, 2014).

Ahnfeltia svenssonii W. R. Taylor, 1945:238

GULF OF CALIFORNIA DISTRIBUTION. EC: Segundo Cerro Prieto to Roca Roja, Bahía Kino, SON; Playa Guayabitos and Playa Las Peñas, NAY. WC: Loreto to Cabo San Lucas, BCS. IS: Isla Cholla, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Black Beach, Isla Floreana (Charles Island; Isla Santa María), Galápagos Islands, Ecuador.

RHODYMENIOPHYCIDAE G. W. SAUNDERS
ET HOMMERSAND, 2004:1504

GELIDIALES KYLIN, 1923:132

GELIDIACEAE KÜTZING, 1843:xxiv, 390, 405

***Gelidium* J. V. Lamouroux, 1813:128, nom. cons.**

Gelidium coronadense E. Y. Dawson, 1953:67

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto, BCS.

TYPE LOCALITY. On mid intertidal rocks; east side of Isla Norte, Islas Los Coronados, off Pacific coast of Baja California, Mexico.

Gelidium crinale (Hare ex Turner) Gaillon, 1828:362

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda to Cabo Arco, SON. WC: Campo Hawaii to Playa El Coloradito, BC.

LECTOTYPE LOCALITY. Ilfracombe, Devonshire, England, UK (Dixon and Irvine, 1977a).

Gelidium decompositum Setchell et N. L. Gardner, 1924a:743

GULF OF CALIFORNIA DISTRIBUTION. WC: Puerto Calamajué to Bahía San Francisquito, BC; Bahía de Loreto, BCS. IS: Isla Partida (Isla Cordonazo) and Isla Rasa, ISG.

TYPE LOCALITY. Bahía San Francisquito, Baja California, Gulf of California, Mexico.

Gelidium johnstonii Setchell et N. L. Gardner, 1924a:742

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Cabo Arco, SON. WC: El Machorro, BC, to

Cabo Pulmo, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Tiburón, Isla Turner, and Isla San Esteban, ISG; Isla Coronado, Isla La Ventana, Islas de Los Gemelos, BC; Isla San Marcos, Isla Carmen, and Caleta Partida (between Isla Partida and Isla Espíritu Santo), BCS.

TYPE LOCALITY. Bahía San Francisquito, Baja California, Gulf of California, Mexico.

Gelidium mcnabbianum (E. Y. Dawson) Santelices, 1998:245

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano to Punta Peñasco, Puerto Peñasco, SON.

TYPE LOCALITY. Bahía Golfito, southwest of Golfo Dulce, Puntarenas Province, Pacific coast of Costa Rica.

Gelidium microdentatum E. Y. Dawson, 1960a:36

GULF OF CALIFORNIA DISTRIBUTION. EC: San Blas to Manzanillas, NAY. IS: Isla Larga, NAY.

TYPE LOCALITY. "Intertidal rocks across the river from the village" (Dawson, 1960a:37); San Blas, Nayarit, Gulf of California, Mexico.

Gelidium microphysa Setchell et N. L. Gardner, 1930:151

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, SON. WC: Bahía de Los Ángeles, BC. IS: Isla Patos, Isla Tiburón, Isla Turner, and Isla Partida (Isla Cordonazo), ISG.

TYPE LOCALITY. On rocks; Bahía Sur (South Bay), Isla Guadalupe, off Pacific coast of Baja California, Mexico.

Gelidium pusillum (Stackhouse) Le Jolis, 1863:139

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Puerto Vallarta, JAL. WC: Campo Hawaii, BC, to Cabo San Lucas, BCS. IS: Isla Alcatraz, SON; Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Isla Tiburón, Isla Turner, and Isla Partida (Isla Cordonazo), ISG; Isla San Juan Nepomuceno, BCS; Isla Larga, NAY.

TYPE LOCALITY. Sidmouth, Devon, England, UK (Dixon and Irvine, 1977a).

Gelidium refugiense (E. Y. Dawson) Santelices, 2007:298

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía San Carlos, SON. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. In beach drift; on north shore of Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Gelidium sclerophyllum W. R. Taylor, 1945:156

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Puerto Vallarta, JAL. WC: Bahía Concepción to Cabeza Ballena, BCS. IS: Isla Pelicano, SON.

TYPE LOCALITY. Dredged 5.4 m depth; near northeast side of Ensenada de San Francisco, Provincia de Esmeraldas, northern Ecuador.

Uncertain Record: *Gelidium coulteri* Harvey, 1853:117

GULF OF CALIFORNIA DISTRIBUTION. EC: Segundo Cerro Prieto, Bahía Kino, SON.

REMARKS. Reported from the upper Gulf by Mendoza-González and Mateo-Cid (1986), its presence in the northern Gulf needs to be verified.

GELIDIACEAE K.-C. FAN, 1961:317

Gelidiella J. Feldmann et G. Hamel, 1934:529

Gelidiella acerosa (Forsskål) Feldmann et G. Hamel, 1934:533

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Guayabitos and Playa Las Peñas, NAY, to Puerto Vallarta, JAL. WC: Puertecitos, BC, to Cabeza Ballena, BCS. IS: Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. "Ad Mochhae littoral" (Forsskål, 1775:190); Al Mukha, Yemen, Red Sea.

Gelidiella hancockii E. Y. Dawson, 1944:261

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON, to Sayulita, NAY. WC: Playa El Coloradito, BC, to Calerita, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Partida (Isla Cordonazo), and Isla Tiburón, ISG.

TYPE LOCALITY. On mid intertidal rocks; rocky point, about 4.8 km north of Bahía Kino, Sonora, Gulf of California, Mexico.

PTEROCLADIACEAE FELICINI ET PERRONE, IN PERRONE ET AL., 2006:31

Pterocladia J. Agardh, 1852a:485

Pterocladia sonorensis (E. Y. Dawson) J. S. Stewart et J. N.

Norris, in Norris and Stewart, 2014:316

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Puerto San Carlos, SON.

TYPE LOCALITY. Intertidal rocks; near Puerto San Carlos on west side of Ensenada de San Francisco (northeast of Guaymas), Sonora, Gulf of California, Mexico.

Pterocladia Santelices et Homersand, 1997:117

Pterocladia caloglossoides (M. Howe) Santelices, 1998:244

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: San Felipe to Bahía de Los Ángeles, BC.

TYPE LOCALITY. Isla de San Lorenzo, off the port of Callao (west of Lima), Peru.

Pterocladia capillacea (S. G. Gmelin) Santelices et

Homersand, 1997:118

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Playa Los Muertos, NAY. WC: Puerto

Calamajué, BC, to Cabo San Lucas, BCS. IS: Isla Coronado, BC; Isla Rasa, ISG; Isla San Ildefonso, Isla Carmen, and Isla Partida, BCS.

TYPE LOCALITY. Mediterranean Sea.

Pterocladia luxurians (F. S. Collins) G. H. Boo et K. A.

Miller, in Boo et al., 2016:5

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Tucson to Playa Arenosa, Puerto Peñasco, SON.

TYPE LOCALITY. Pacific Beach, San Diego County, southern California, USA (*Gelidium crinale* f. *luxurians* F. S. Collins, in Collins et al., 1903: *P.B.-A. exsiccate* no. 1138).

REMARKS. Although previously treated as synonym of *Pterocladia media* (e.g., Stewart, 1974; Norris and Stewart, 2014), Boo et al. (2016) provided molecular evidence *Gelidium crinale* f. *luxurians* was a distinct species belonging in *Pterocladia*, as *P. luxurians*.

Pterocladia media (E. Y. Dawson) G. H. Boo et K. A. Miller, in Boo et al., 2016:5

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL.

TYPE LOCALITY. Rocky beach just north of Wind-and-Sea (“Windansea” surfing beach), La Jolla, San Diego County, southern California, USA.

REMARKS. Recently, molecular analysis of type specimens by Boo et al. (2016) supported placement of *Pterocladia media* E. Y. Dawson (1958) in the genus *Pterocladia*.

GRACILARIALES FREDERICQ ET HOMMERSAND, 1989:225

GRACILARIACEAE NÄGELI, 1847:240, 254

GRACILARIACEAE SUBFAM. GRACILARIOIDEAE STIZENBERGER, 1860:41

GRACILARIOIDEAE TRIBE GRACILARIEAE WILLKOMM, 1854:147

Gracilaria Greville, 1830:iiiv, 121, *nom. cons.*

Gracilaria ascidiicola E. Y. Dawson, 1961a:203

GULF OF CALIFORNIA DISTRIBUTION. WC: Puerto Escondido to Bahía de Loreto, BCS.

TYPE LOCALITY. Growing in an ascidian (tunicate), on mud bottom; innermost lagoon, Puerto Escondido, Baja California Sur, Gulf of California, Mexico.

Gracilaria cerrosiana W. R. Taylor, 1945:232

GULF OF CALIFORNIA DISTRIBUTION. WC: La Paz, BCS.

TYPE LOCALITY. On rocks; Bahía Sur, Isla Cedros (Isla Cerros), Baja California, Mexico.

Gracilaria crispata Setchell et N. L. Gardner, 1924a:753

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Bahía de Banderas, JAL. WC: Puertecitos, BC, to Cabeza Ballena, BCS. IS: Isla Coronado, BC; Isla Tiburón and Isla Turner, ISG; Isla San Pedro Nolasco, SON; Isla Cholla, Isla Carmen, Isla Monserrate, and Bahía San Gabriel, Isla Espíritu Santo, BCS; Isla de Venados, SIN.

TYPE LOCALITY. Rancho Eureka (near Punta Soleidad), Bahía de Las Palmas, Baja California Sur, Gulf of California, Mexico.

Gracilaria cunninghamii Farlow ex J. Agardh, 1901:93

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Mazatlán, SIN. WC: San Felipe, BC.

TYPE LOCALITY. Santa Barbara, Santa Barbara County, southern California, USA.

Gracilaria marcialana E. Y. Dawson, 1949a:15

GULF OF CALIFORNIA DISTRIBUTION. EC: Roca Rojo, Bahía Kino, SON. WC: Machorro, BC, to Bahía de La Paz, BCS. IS: Roca San Marcial, BCS; Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Dredged 16–30 m depths; reef, vicinity of Roca San Marcial, about 2.0 km north-northeast of Punta San Marcial, Baja California Sur, Gulf of California, Mexico.

Gracilaria pachydermatica Setchell et N. L. Gardner, 1924a:753

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Puerto Vallarta, JAL. WC: El Coloradito, BC, to Cabeza Ballena, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Turner, and Isla San Esteban, ISG; Isla Espíritu Santo, BCS.

TYPE LOCALITY. On upper sublittoral rocks; Isla Tortuga (off Puerto Santa Rosalía), Baja California Sur, Gulf of California, Mexico.

Gracilaria pacifica I. A. Abbott, 1985:116

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Playa Guayabitos and Playa las Peñas, NAY. WC: Bahía de Los Ángeles, BC, to Bahía de La Paz, BCS. IS: Isla Estanque, Isla Tiburón, Isla Rasa, and Isla San Pedro Mártir, ISG; Isla San Juan Nepomuceno, BCS. Isla de la Piedra, SIN.

TYPE LOCALITY. Intertidal (0.0 foot tide level); mid-way to southwest end of Stillwater Cove, Pebble Beach, Monterey County, central California, USA.

Gracilaria papenfussii I. A. Abbott, 1983:562

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to Bahía Rincón, BCS.

TYPE LOCALITY. La Jolla, San Diego County, southern California, USA.

Gracilaria parvispora I. A. Abbott, 1985:119

GULF OF CALIFORNIA DISTRIBUTION. WC: San Juan de la Costa (Bahía de La Paz) to Playa La Concha (vicinity of La Paz), BCS. IS: Isla Huitussi, Bahía Navachiste, SIN.

TYPE LOCALITY. Kāneʻohe (Kaneohe) Bay, island of Oahu (Hawaiian Islands), Hawaii, USA.

REMARKS. *Gracilaria parvispora* is morphologically similar to another invasive species *G. vermicularophylla*. A non-native species in the Gulf, it has recently been identified in the southern Gulf primarily on the basis of genetic analyses (García-Rodríguez et al., 2013).

Gracilaria pinnata Setchell et N. L. Gardner, 1924a:751

GULF OF CALIFORNIA DISTRIBUTION. WC: Playa El Coloradito, BC, to Cabo Pulmo, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG; Isla La Ventana, BC; Isla María Magdalena, NAY.

TYPE LOCALITY. Bahía de Los Ángeles, Baja California, Gulf of California, Mexico.

Gracilaria ramisecunda E. Y. Dawson, 1949a:17

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto to Cabeza Ballena, BCS. IS: Isla Cholla, BCS.

TYPE LOCALITY. Intertidal; Cabeza Ballena, Baja California Sur, Gulf of California, Mexico.

Gracilaria rubrimembra E. Y. Dawson, 1949a:32

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. IS: Isla San Pedro Mártir, ISG.

TYPE LOCALITY. South side of Ensenada de San Francisco (near Puerto San Carlos), Sonora, Gulf of California, Mexico.

Gracilaria spinigera E. Y. Dawson, 1949a:24

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON, to Punta de Mita, NAY. WC: Bahía de Los Ángeles, BC, to Arrecife de Cabo Pulmo, BCS. IS: Isla San Ildefonso, Isla Tortuga, Isla Carmen, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Upper sublittoral rocks; Ensenada de San Francisco (vicinity of Puerto San Carlos), Sonora, Gulf of California, Mexico.

Gracilaria subsecundata Setchell et N. L. Gardner, 1924a:755

GULF OF CALIFORNIA DISTRIBUTION. EC: Piedras del Burro to Guaymas, SON, to Laguna Ceuta, SIN. WC: Campo Hawaii, BC, to Cabeza Ballena, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Tiburón, ISG; Isla Espíritu Santo, BCS.

TYPE LOCALITY. Guaymas, Sonora, Gulf of California, Mexico.

REMARKS. Herein the selection of a lectotype specimen of another species, *G. hancockii* E. Y. Dawson, recognizes

that species to be a synonym of *G. subsecundata* (see Remarks below under *Gracilaria hancockii*).

Gracilaria tepocensis (E. Y. Dawson) E. Y. Dawson, 1961a:211

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON, to Cabo Corrientes, JAL. WC: San Felipe, BC, to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla Estanque, ISG.

TYPE LOCALITY. Dredged 21.6 m depth; Bahía Tepoca, Sonora, Gulf of California, Mexico.

Gracilaria turgida E. Y. Dawson, 1949a:14

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Laguna Santa María y Laguna La Reforma, SIN. WC: Playa El Coloradito, BC, to Cabo Pulmo, BCS. IS: Isla Coronado, BC.

TYPE LOCALITY. Mudflat; upper Newport Harbor, Newport-Balboa, Orange County, southern California, USA.

Gracilaria veleroae E. Y. Dawson, 1944:297

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Peñasco, SON, to Bahía Banderas, NAY/JAL. WC: Campo Hawaii, BC, to Cabeza Ballena, BCS. IS: Isla Tiburón and Isla Turner, ISG; Isla Espíritu Santo, BCS; Isla Isabel, NAY.

TYPE LOCALITY. Dredged 4–30 m depths; off the southern shore of Isla Tiburón (near Isla Turner), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Invasive species: *Gracilaria vermiculophylla* (Ohmi) Papenfuss, 1967:101

GULF OF CALIFORNIA DISTRIBUTION. EC: El Colorado, SON; Bahía de Navachiste to Teacapán, SIN.

TYPE LOCALITY. Gomejima, Akkeshi-ko Lagoon (shallow estuary connected to shore of Akkeshi Bay), Kushiro Province (now Kushiro Subprefecture), Hokkaidō Island, Japan.

REMARKS. Apparently introduced and sometimes commercially harvested in the Gulf, it is a highly invasive species (Norris, 2014). Its spread and ecological effect on the native Gulf marine flora need to be studied. It has been reported on the Pacific coast of northern Baja California in the estero at Punta Banda (L. Aguilar-Rosas et al., 2014). Morphologically similar to *G. parvispora*, the two in the Gulf may be confused and sometimes could be misidentified [see also: Remarks under *G. parvispora*].

Gracilaria vivesii M. Howe, 1911:503

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Lobos to Guaymas, SON. WC: San Felipe, BC, to Bahía de La Paz, BCS. IS: Isla Patos, Isla Turner, and Isla San Esteban, ISG; Isla San Pedro Nolasco, SON; Isla San Ildefonso, Isla Carmen, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. La Paz, Baja California Sur, Gulf of California, Mexico.

REMARKS. See also comments below under *Gracilaria textorii*.

Uncertain Record: *Gracilaria textorii* (Suringar) Hariot, 1891:223

REMARKS. The presence of the Japanese *G. textorii* in the northern Gulf of California seems unlikely and requires further study (Norris and Gurgel, 2014). Most specimens of Gulf “*G. textorii* sensu Dawson (1961a)” were referred to *G. vivesii*, and those of Mateo-Cid and Mendoza-González (1992) from Nayarit may also belong to *G. vivesii*.

Resolved Status: *Gracilaria hancockii* E. Y. Dawson, 1944:297

TYPE LOCALITY. Dredged 4–32 m depths; off southern shore of Isla Tiburón near Isla Turner, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. The taxonomic status of *Gracilaria hancockii* E. Y. Dawson (1944) has been uncertain (Norris and Gurgel, 2014). Dawson (1949a) treated the taxon as a “*nomen confusum*” on the basis of his reexamination of the type collection of *G. hancockii* (AHFH-38), in which he found a mix of specimens of different species—that is, tetrasporophytes that were either a species of *Gracilaria* or a *Gracilariopsis*, a cystocarpic species of *Agardhiella*, or a sterile specimen he referred to *Gracilaria subsecundata*. We chose the specimen on the herbarium type sheet (EYD-149; AHFH-38, now UC) identified by Dawson (1949a:39) to be *G. subsecundata* Setchell et N. L. Gardner (1924a) as the lectotype of *G. hancockii* E. Y. Dawson (1944:297). The two are conspecific, with *G. subsecundata* Setchell et N. L. Gardner (1924a:755) being the older valid name.

Excluded Species: *Gracilaria verrucosa* sensu Dawson, 1961b:214

REMARKS. Gulf of California specimens previously identified as “*Gracilaria verrucosa*” are excluded from the Gulf marine flora (non *G. verrucosa* (Hudson) Papenfuss, 1950, *nom. rej.*, which is now *Gracilariopsis longissima* (S. G. Gmelin) Steentoft, L. M. Irvine et Farnham, 1995). Gulf of California specimens previously identified as “*Gracilaria verrucosa*” need to be reexamined and compared to the narrow, cylindrical species of Gracilariaceae reported in the Gulf (Norris and Gurgel, 2014)—that is, *Gracilaria* (*G. pacifica*, *G. papenfussii*, and *G. vermiculophylla*) and *Gracilariopsis* (*G. andersonii*, *G. animasensis*, *G. longissima*, *G. megaspora*, and *G. rhodotricha*)—to determine their identifications.

***Gracilariopsis* E. Y. Dawson, 1949a:40**

***Gracilariopsis andersonii* (Grunow) E. Y. Dawson, 1949a:43**

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal to Guaymas, SON; Bahía Topolobampo, SIN (with query). WC: San Felipe, BC, to Bahía de La Paz; BCS.

TYPE LOCALITY. Santa Cruz, Santa Cruz County, central California, USA.

***Gracilariopsis animasensis* Gurgel et J. N. Norris, in Norris and Gurgel, 2014:398**

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON. WC: Bahía de Los Ángeles, BC, to Bahía de La Paz, BCS. IS: Isla Angel de la Guarda, ISG.

TYPE LOCALITY. In fine-sediment sand, intertidal to 1.0 m depths; shallow channel near entrance to mangrove estero inside of Bahía de Las Ánimas (28°48'28"N, 113°21'39"W), Baja California, Gulf of California, Mexico.

***Gracilariopsis longissima* (S. G. Gmelin) Steentoft, L. M. Irvine et Farnham, 1995:117**

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Navachiste, SIN.

SYNTYPE LOCALITIES. “Ad littoral *Belgii* nonnunquam proicitur, Dellenius haber, aquae ductum sequi, et lapillis adnasci ad canals et introitus maris pone *Sheerness*” (Gmelin, 1768:134); littoral, Belgium and Sheerness [probably mouth of River Thames].

NEOTYPE LOCALITY. Sheerness, Kent, England, UK (Steentoft et al., 1995).

***Gracilariopsis megaspora* E. Y. Dawson, 1949a:45**

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía San Carlos, SON.

TYPE LOCALITY. Lagoon, Bahía San Carlos, Sonora, Gulf of California, Mexico.

Uncertain Record: *Gracilariopsis rhodotricha* E. Y. Dawson, 1949a:47

REMARKS. A southern Gulf specimen from Bahía de San Lucas, BCS, was tentatively referred to *G. rhodotricha* (Norris, 1985; Norris and Gurgel, 2014); more collections are needed to verify its presence in the Gulf.

***Gracilariophila* Setchell et H. L. Wilson, in Wilson, 1910:81**

***Gracilariophila gardneri* Setchell, 1923:393**

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, to Bahía Bacochibampo, SON.

TYPE LOCALITY. On *Gracilaria cunninghamii*; Santa Monica, Los Angeles County, southern California, USA.

PTEROCLADIOPHILACEAE K.-C. FAN ET PAPERFUSS, 1959:38

***Gelidiocolax* N. L. Gardner, 1927b:340**

***Gelidiocolax microsphaericus* N. L. Gardner, 1927b:341**

GULF OF CALIFORNIA DISTRIBUTION. WC: Playa El Coloradito, BC, to Punta Arena, BCS.

TYPE LOCALITY. On *Gelidium pulchrum*; ~3.2 km south of Balboa Beach, Orange County, southern California, USA.

**BONNEMAISONIALES FELDMANN ET
FELDMANN-MAZOYER, 1943:163**

BONNEMAISONIACEAE F. SCHMITZ, 1892:20

***Asparagopsis* Montagne, 1841:xv**

Asparagopsis taxiformis (Delile) Trevisan, 1845:45
(gametophytes); and *Falkenbergia*-phase (sporophyte)

GULF OF CALIFORNIA DISTRIBUTION. *Asparagopsis taxiformis* (gametophytes)—EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: San Felipe, BC, to Punta Los Frailes, BCS. IS: Rocas Consag, SON; Isla Coronado and Islas de Los Gemelos, BC; Isla Mejía, Roca Blanca, and Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, and Isla Rasa, ISG; Isla Tortuga, Isla San Ildefonso, Isla Cholla, Isla Carmen, Isla Monserrate, Isla San Diego, Isla San Francisco, Isla Partida, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS. *Falkenbergia*-phase (sporophyte)—EC: Puerto Peñasco, SON, to Miramar, NAY. WC: Bahía de Los Ángeles, BC, to Cabeza Ballena, BCS. IS: Isla Coronado and Isla La Ventana, BC; Isla Partida and Isla Espíritu Santo, BCS.

REMARKS. Both gametophytes and presumed sporophytes in the life history of *Asparagopsis taxiformis* have been collected in the Gulf of California. However, the two phases are not always found at the same time or at the same locales.

***Bonnemaisonia* C. Agardh, 1822:196**

Bonnemaisonia hamifera Hariot, 1891:223

GULF OF CALIFORNIA DISTRIBUTION. WC: Puerto Calamajué to Bahía de Los Ángeles, BC. IS: Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, and Isla Estanque, ISG; Isla La Ventana, BC.

TYPE LOCALITY. Yokosuka, Kanagawa Prefecture, southeast Honshū Island, Japan.

REMARKS. Only the gametophytes of *Bonnemaisonia hamifera* are known in the Gulf of California. The presumed sporophyte, *Trilliella*-phase, has not yet been collected in the Gulf.

CERAMIALES NÄGELI, 1847:196, 253

**CERAMIALES SUBORD. CERAMIINEAE
ATHANASIADIAS, 2016B:764**

CALLITHAMNIACEAE KÜTZING, 1843:370

**CALLITHAMNIACEAE SUBFAM. CALLITHAMNIOIDEAE
DE TONI, 1903:1252**

**CALLITHAMNIOIDEAE TRIBE CALLITHAMNIEAE
J. AGARDH, 1851:4**

***Aglaothamnion* Feldmann-Mazoyer, 1940:451**

Aglaothamnion endovagum (Setchell et N. L. Gardner) I. A. Abbott, 1972:262

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco to Bahía Catalina, SON. IS: Isla San Esteban and Isla Turner, ISG; Isla San Ildefonso, BCS.

TYPE LOCALITY. Endo-epiphytic in fronds of *Grateloupia prolongata* J. Agardh; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

***Callithamnion* Lyngbye, 1819:xxxi, 123**

Callithamnion bisporum var. *australe* E. Y. Dawson, 1962a:26

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC, to Puerto Escondido, BCS.

TYPE LOCALITY. Dredged 6–9 m depths; outer bay, Puerto Escondido, Baja California Sur, Gulf of California, Mexico.

Callithamnion catalinense E. Y. Dawson, 1962a:28

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Dredged 15–30 m depths; on Farnsworth Bank, sea mount off west side of Santa Catalina Island, Los Angeles County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

Callithamnion compactum E. Y. Dawson, 1962a:29

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON.

TYPE LOCALITY. Intertidal, on *Prionitis delicatula*; Bahía Asunción, Pacific coast of Baja California Sur, Mexico.

REMARKS. Dawson (1962a) noted the vicinity of Guaymas specimen was sterile and may possibly be referable to this species. Its presence in the Gulf needs verification.

Callithamnion marshallense E. Y. Dawson, 1957:117

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, SON. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. At 1.6–3.0 m depths, lagoon; south end of Parry Island, Enewetak Atoll (Eniwetok), Republic of the Marshall Islands.

Callithamnion paschale Borgesen, 1924a:294

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Tucson, Bahía la Choya, Puerto Peñasco, to Bahía Bacoichampo, SON. WC: Faro de San Felipe, BC, to Punta Los Frailes, BCS. IS: Isla San Jorge and Isla San Pedro Nolasco, SON; Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, and Isla Partida, ISG; Isla Carmen, Isla Monserrate, and Isla Espíritu Santo, BCS; Isla de la Piedra, SIN.

TYPE LOCALITY. Hanga Piko, Rapa Nui (Easter Island), Province Isla de Pascua (Valparaíso Region), Chile.

Callithamnion ramosissimum N. L. Gardner, 1927c:404

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Loreto to Bahía de La Paz, BCS.

TYPE LOCALITY. Epiphytic on *Hypnea*; La Jolla, San Diego County, southern California, USA.

Callithamnion rupicola C. L. Anderson, 1894:360

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Bahía de Banderas, JAL. WC: Puertecitos, BC, to Bahía de La Paz, BCS.

TYPE LOCALITY. On rocks; Monterey Bay, Monterey County, central California, USA.

CALLITHAMNACEAE SUBFAM. CROUANIOIDEAE DE TONI, 1903:1252

CROUANIOIDEAE TRIBE CROUANIEAE F. SCHMITZ ET HAUPTFLEISCH, 1897B:484, 497

***Crouania* J. Agardh, 1842:83**

Crouania attenuata (C. Agardh) J. Agardh, 1842:83

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Punta Robinson, SON. WC: Bahía de La Paz to Cabeza Ballena, BCS.

TYPE LOCALITY. “Atlantic Ocean” (Agardh, 1824).

LECTOTYPE LOCALITY. Brittany, northwest France (Dixon, 1962).

***Crouanophycus* Athanasiadis, 1998:517**

Crouanophycus mcnabbii (E. Y. Dawson) Athanasiadis, 1998:517

GULF OF CALIFORNIA DISTRIBUTION. WC: Caleta Santa María to Roca El Solitario, BCS.

TYPE LOCALITY. On rocks; Roca El Solitario, Bahía Agua Verde, Baja California Sur, Gulf of California, Mexico.

CERAMACEAE DUMORTIER, 1822:71, 100

CERAMACEAE SUBFAM. CERAMIOIDEAE S. F. GRAY, 1821:317

CERAMIOIDEAE TRIBE ANTITHAMNIEAE HOMMERSAND, 1963:330

***Antithamnion* Nägeli, 1847:202**

Antithamnion antillanum Børgesen, 1917:226

GULF OF CALIFORNIA DISTRIBUTION. WC: Cabo Pulmo, BCS.

TYPE LOCALITY. Charlotte Amalie Harbor, near Charlotte Amalie, St. Thomas, US Virgin Islands.

Antithamnion decipiens (J. Agardh) Athanasiadis, 1996a:151

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to El Desemboque de los Seris, SON. WC: Caleta Santa María to Cabeza Ballena, BCS.

TYPE LOCALITY. Nice, Provence-Alpes-Côte d’Azur, SE France, western Mediterranean Sea.

Antithamnion defectum Kylin, 1925:46

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Ángel de la Guarda, ISG; Islas de Los Gemelos, BC; Canal de San Lorenzo, Isla Espíritu Santo, BCS.

SYNTYPE LOCALITIES. Three locales were given by Kylin (1925): Friday Harbor (San Juan Island), Canoe Island, and Peavine Pass (channel between Orcas Island and Blakely Island), all San Juan County, Washington, USA.

LECTOTYPE LOCALITIES. Friday Harbor, San Juan Island, San Juan County, Washington, USA (Smith, 1944); and, Canoe Island (off SE of Shaw Island and NW end of Lopez Island), San Juan County, Washington, USA (Lindstrom and Gabrielson, 1989; Athanasiadis, 1996a).

Antithamnion hubbsii E. Y. Dawson, 1962a:17

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto to Bahía de La Paz, BCS.

TYPE LOCALITY. On *Codium*, dredged 70 m depth; Melpomene Cove, Isla Guadalupe, off Pacific coast of Baja California, Mexico.

REMARKS. *Antithamnion hubbsii* E. Y. Dawson was treated as a “provisional synonym” of *A. nipponicum* Yamada et Inagaki (1935) by Cho et al. (2005:333). Further genetic analyses of type material of *A. hubbsii* are needed to verify its taxonomic status and the identify of Gulf of California specimens of “*A. hubbsii*.”

Antithamnion kylinii N. L. Gardner, 1927c:411

GULF OF CALIFORNIA DISTRIBUTION. EC: Canal de Infiernillo, SON.

TYPE LOCALITY. On “log floats”; Victoria Harbor, Victoria, Vancouver Island, British Columbia, Canada.

Uncertain Record: *Antithamnion plumulum* (Ellis et Solander)

Thuret ex Le Jolis, 1863:112

REMARKS. Athanasiadis (1996a) noted the Isla Guadalupe specimen referred to “*A. plumulum* var. *plumulum*” by Dawson (1962a) was probably a species of *Pterothamnion*. The southern Gulf record of “*Antithamnion plumulum*” from Isla Santa Cruz, BCS (Dawson, 1966b), should also be reinvestigated.

CERAMIOIDEAE TRIBE CERAMIEAE F. SCHMITZ ET HAUPTFLEISCH, 1897B:501

***Centroceras* Kützing, 1842:731**

Centroceras clavulatum (C. Agardh) Montagne, 1846:140

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Faro de San Felipe, BC, to Cabo San Lucas, BCS. IS: Isla Pelicano, SON; Isla Coronado, BC; Isla Partida, Isla Tortuga, Isla San Ildefonso, Isla Cholla, Isla Carmen, and Isla San Juan Nepomuceno, BCS; Isla de la Piedra, SIN; Isla Isabel and Isla María Magdalena, NAY.

TYPE LOCALITY. Callao (seaport W of Lima), Provincia Constitucional, central Peru.

REMARKS. “*Centroceras clavulatum*” is now recognized to be a complex that includes several distinct species (Won et al., 2009; Schneider et al., 2015); thus, Gulf of California specimens referred to “*C. clavulatum*” should be reexamined to verify their identification.

Centroceras gasparrinii (Meneghini) Kützing, 1849:689

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Nueva Guaymas, SON. WC: El Tecolote to Cabeza Ballena, BCS.

TYPE LOCALITY. Palermo, NW coast of island of Sicily, Mediterranean Sea, southern Italy.

***Ceramium* Roth, 1797:146, nom. cons.**

Ceramium aduncum Y. Nakamura, 1950:158

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON, to Miramar, NAY. WC: Bahía de Loreto to Cabeza Ballena, BCS. IS: Isla San Jorge, SON; Isla Patos, ISG; Isla Partida and Isla Espíritu Santo, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. Gôza, southeastern Shima Peninsula, Mie Prefecture (formerly Shima Province), Honshû Island, Japan.

Ceramium affine var. *affine* Setchell et N. L. Gardner, 1930:172

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, SON, to Playa Guayabitos and Playa Las Peñas, NAY. WC: Bahía de Los Ángeles to Punta Los Frailes, BCS. IS: Isla Coronado, BC; Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Epiphytic on *Codium simulans*; Isla Guadalupe, off Pacific coast of Baja California, Mexico.

Ceramium affine var. *peninsularis* E. Y. Dawson, 1950a:132

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Hermosa, Puerto Peñasco, SON. WC: Punta Los Frailes to Bahía de San Lucas, BCS.

TYPE LOCALITY. Dredged 4–6 m depths; Isla Concha, Laguna Ojo de Liebre (Scammon’s Lagoon), El Vizcaíno Biosphere Reserve (UNESCO World Heritage Site), Pacific coast of northwestern Baja California Sur, Mexico.

Ceramium camouii E. Y. Dawson, 1944:319

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada Bacochibampo, SON, to Playa Guayabitos and Playa Las Peñas, NAY. WC: Faro de San Felipe, BC, to Punta Arena, BCS. IS: Isla Turner, ISG.

TYPE LOCALITY. Intertidal rocks; Isla Turner (off southeast end of Isla Tiburón), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Ceramium caudatum Setchell et N. L. Gardner, 1924a:776

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Bahía Topolobampo, SIN. WC: Puertecitos, BC,

to Cabeza Ballena, BCS. IS: Isla San Jorge, SON; Isla Ángel de la Guarda and Isla Turner, ISG; Isla Coronado, BC; Isla de La Piedra, SIN

TYPE LOCALITY. Floating among other algae; Eureka, near La Paz, Baja California Sur, Gulf of California, Mexico.

Ceramium clarionense Setchell et N. L. Gardner, 1930:130

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS. IS: Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. On *Codium*; Isla Clarión, Islas Revillagigedo, Colima, Mexico.

REMARKS. Northern Gulf specimens identified as “*C. clarionense*” (US Alg. Coll.) were found to be *C. aduncum* (Bucher and Norris, 2014a). Other southern Gulf specimens identified as “*C. clarionense*” following Dawson (1962a) should also be reexamined to verify their identification.

Ceramium codicola J. Agardh, 1894:23

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to San José del Cabo, BCS.

TYPE LOCALITY. On *Codium*; Santa Cruz, Santa Cruz County, northern California, USA.

Ceramium codii (H. Richards) Feldmann-Mazoyer, 1938:324

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Bermuda.

REMARKS. Although Geneviève Feldmann-Mazoyer (Dorr and Nicolson, 2009) has sometimes published and is listed in the references as “G. Mazoyer,” her citation as the author of algal names is “Feldmann-Mazoyer” (see Brummitt and Powell, 1992).

Ceramium comptum Børgesen, 1924b:28

GULF OF CALIFORNIA DISTRIBUTION. EC: El Colorado, SON.

TYPE LOCALITY. Beata Island, Dominican Republic, Hispanola Island, Caribbean Sea.

REMARKS. *Ceramium comptum* was recorded in the northern Gulf by Serviere-Zaragoza et al. (2012).

Ceramium equisetoides E. Y. Dawson, 1944:320

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON, to Playa Guayabitos and Playa Las Peñas, NAY. WC: Bahía Concepción to Punta Arena, BCS. IS: Isla Espíritu Santo, BCS; Isla de La Piedra, SIN.

TYPE LOCALITY. Upper intertidal, on rock-shingle beach; Puerto San Carlos, Sonora, Gulf of California, Mexico.

Ceramium giaccionei Cormaci et G. Furnari, 1991:45

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Perico, BCS.

TYPE LOCALITY. Lachea Island, archipelago of Cyclops, Gulf of Aci Trezza, Province of Catania, Sicily, Italy.

Ceramium hamatispinum E. Y. Dawson, 1950a:122

GULF OF CALIFORNIA DISTRIBUTION. EC: inner lagoon, Bahía San Carlos, SON, to Bahía de Banderas, JAL.

TYPE LOCALITY. Intertidal; Miramar, south of San Blas, Nayarit, Gulf of California, Mexico.

Ceramium horridulum P. C. Silva, 1972:204

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Puerto Viejo, Bahía Mazatlán, SIN. WC: Bahía de los Ángeles, BC, to San Juan de la Costa, BCS. IS: Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, and Isla Tiburón, ISG; Puerto Ballandra, Isla Carmen, and Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Cast ashore; Guaymas, Sonora, Gulf of California, Mexico.

Ceramium howellii Setchell et N. L. Gardner, 1937:88

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta La Gringa, BC. IS: Bahía Salinas, Isla Carmen, BCS.

TYPE LOCALITY. On rocks; SE side of Isla Fernandina (Narborough Island), Galápagos Islands, Ecuador.

Ceramium interruptum Setchell et N. L. Gardner, 1924a:775

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, to Bahía Tepoca, SON. WC: Bahía Agua Verde to Eureka, BCS. IS: Isla Coronado, BC.

TYPE LOCALITY. Eureka, near La Paz, Baja California Sur, Gulf of California, Mexico.

Ceramium mazatlanense E. Y. Dawson, 1950a:130

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON, to Mazatlán, SIN.

TYPE LOCALITY. Epiphytic on *Codium*; small reef, about 3.22 km N of Mazatlán, Sinaloa, Gulf of California, Mexico.

Ceramium monacanthum J. Agardh, 1894:29

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Playa Guayabitos and Playa Las Peñas, NAY. WC: Punta Arena, BCS.

TYPE LOCALITY. “Ad oras Tamaniae” (Agardh, 1894); George Town [on east bank of mouth of Tamar River], NE Tasmania (Womersley, 1978).

Ceramium obesum E. Y. Dawson, 1950a:119

GULF OF CALIFORNIA DISTRIBUTION. IS: Bahía Agua Dulce, Isla Tiburón, ISG.

TYPE LOCALITY. Intertidal rocky shore; Bahía Agua Dulce, Isla Tiburón, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Ceramium pacificum (Collins) Kylin, 1925:61

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de La Paz, BCS.

LECTOTYPE LOCALITY. Monterey, Monterey County, central California, USA (Smith, 1944).

REMARKS. Some Gulf of California specimens referred to “*C. pacificum*” were later found to be *C. horridulum* (Bucher and Norris, 2014a). Other Gulf records referred to “*C. pacificum*” should also be reexamined to verify its presence in the Gulf.

Ceramium paniculatum Okamura, 1896:36

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Arenosa, Puerto Peñasco, SON, to Mazatlán, SIN. WC: Bahía San Francisquito, BC, to Cabeza Ballena, BCS. IS: Isla San Pedro Nolasco, SON; Isla Espíritu Santo, BCS.

TYPE LOCALITY. On *Corallina*; “Kamahara, Iwaki Province [now Fukushima Prefecture]” (Dawson, 1962a:62), northeast coast of Honshū Island, Japan.

Ceramium periconicum T. O. Cho et Riosmena-Rodríguez, 2008:307

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON. WC: Punta Perico to Bahía de San Lucas, BCS. IS: Isla la Ventana, BC.

TYPE LOCALITY. Depth of 2–3 m; Punta Perico (north of Bahía de los Muertos), Baja California Sur, Gulf of California, Mexico.

Ceramium personatum Setchell et N. L. Gardner, 1930:171

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN.

TYPE LOCALITY. Epiphyte; Isla Guadalupe, off Pacific coast of Baja California, Mexico.

Ceramium procumbens Setchell et N. L. Gardner, 1924a:772

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, to Bahía San Carlos, SON. WC: Bahía de Los Ángeles, BC, to Cabo Pulmo, BCS. IS: Isla Partida (Isla Cordonazo), ISG; Isla Tortuga and Isla San Ildefonso, BCS.

TYPE LOCALITY. Epiphytic on *Grateloupia proloungata* J. Agardh; Isla Partida [sur] (off north end of Isla Espíritu Santo), Baja California Sur, Gulf of California, Mexico.

Ceramium serpens Setchell et N. L. Gardner, 1924a:775

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to Punta Palmilla, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Epiphytic on *Laurencia*; La Paz, Baja California Sur, Gulf of California, Mexico.

Ceramium sinicola Setchell et N. L. Gardner, 1924a:773

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Arenosa, Puerto Peñasco, SON, to Bahía Topolobampo, SIN. WC: Bahía de Loreto to Cabeza Ballena, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Turner, Isla San Esteban, and Isla Partida (Isla Cordonazo), ISG; Isla Coronado, BC; Isla San Pedro Nolasco, SON; Isla San Ildefonso and Isla Gaviota, BCS.

TYPE LOCALITY. Bahía de Todos Santos, Ensenada, Pacific coast of Baja California, Mexico.

REMARKS. The original species name "*sinicola*" was chosen by Setchell and Gardner (1924a) on the mistaken assumption that "Ensenada Bay" was in the Gulf of California (Dawson, 1962a). Ensenada Bay is not in the Gulf, but on the Pacific coast of northern Baja California.

Ceramium sinicola var. *johnstonii* (Setchell et N. L. Gardner)

E. Y. Dawson, 1944:316

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON, to Bahía Topolobampo, SIN. WC: La Paz, BCS. IS: Isla San Esteban and Isla San Pedro Mártir, ISG.

TYPE LOCALITY. Epiphytic on other algae; Isla San Pedro Mártir, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Ceramium vagans P. C. Silva, in Silva et al., 1987:56

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Turner, ISG.

TYPE LOCALITY. Within tufts of *Ectocarpus breviar-ticulatus* (now *Asteronema breviar-ticulatum*), near the margin of seaward reef opposite the Enewetak Marine Biology Laboratory, Parry Island, Enewetak (Eniwetok) Atoll, Ralik Archipelago, northwestern Republic of the Marshall Islands.

Ceramium zaca Setchell et N. L. Gardner, 1937:89

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to Segundo Cerro Prieto, Bahía Kino, SON. WC: Puertecitos, BC, to Punta Arena, BCS.

TYPE LOCALITY. Epiphytic on *Codium fragile*; Bahía Tortuga, on southeast side of Bahía San Bartolomé, Pacific coast of Baja California Sur, Mexico.

***Corallophila* Weber-van Bosse, 1923:339**

Corallophila bella (Setchell et N. L. Gardner) R. E. Norris, 1993:395

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON.

TYPE LOCALITY. Cast ashore; Guaymas, Sonora, Gulf of California, Mexico.

***Gayliella* T. O. Cho, L. McIvor et S. M. Boo, in Cho et al., 2008:723**

Gayliella fimbriata (Setchell et N. L. Gardner) T. O. Cho et S. M. Boo, in Cho et al., 2008:723

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Bahía de Los Ángeles, BC, to Cabeza Ballena, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Tiburón, and Isla Turner, ISG; Isla San José, Isla Monserrate, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. Floating; Eureka, near La Paz, Baja California Sur, Gulf of California, Mexico.

Gayliella species A of Bucher and Norris, 2014a:196

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco to Ensenada de San Francisco, SON. WC: Bahía Agua Verde to Cabeza Ballena, BCS. IS: Isla Coronado, BC; Isla Carmen, Isla Monserrate, and Isla San Juan Nepomuceno, BCS.

REMARKS. Specimens identified "*Ceramium gracillimum* var. *byssoideum*" by Dawson (1962a; non *C. gracillimum* var. *byssoideum* (Harvey) Feldmann-Mazoyer, 1938) were found to be the same species of *Gayliella* species A (Bucher and Norris, 2014a) and may be an undescribed species.

Gayliella recticortica (E. Y. Dawson) T. O. Cho et S. M. Boo, in Cho et al., 2008:736

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Bacoahibampo, SON, to Mazatlán, SIN. WC: Bahía Balandra to Punta Perico, BCS. IS: Isla la Ventana, BC.

TYPE LOCALITY. Epiphytic on *Coeloseira pacifica* (now *Gastroclonium pacificum*); Bahía Bacoahibampo (west of Guaymas), Sonora, Gulf of California, Mexico.

Gayliella taylorii (E. Y. Dawson) T. O. Cho et S. M. Boo, in Cho et al., 2008:727

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Puerto Vallarta, JAL. WC: Puerto Escondido to Cabeza Ballena, BCS. IS: Isla Patos, Isla Partida (Isla Cordonazo), and Isla Rasa, ISG; Isla San Ildefonso and Isla Carmen, BCS.

TYPE LOCALITY. Cabeza Ballena, Baja California Sur, Gulf of California, Mexico.

CERAMIOIDEAE TRIBE DELESSERIOPSIEAE ITONO ET TAK. TANAKA, 1973:251

***Balliella* Itono et Tak. Tanaka, 1973:249**

Balliella pseudocorticata (E. Y. Dawson) D. N. Young, 1981:94

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Loreto to Bahía de La Paz, BCS. IS: Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Dredged 7.3–18.3 m depths; Canal de San Lorenzo (channel between south end of Isla Espíritu Santo and coastal peninsula from Punta Coyote to Punta San Lorenzo), near the entrance to Bahía de La Paz, Baja California Sur, Gulf of California, Mexico.

CERAMIOIDEAE TRIBE DOHRNIELLEAE FELDMANN-MAZOYER, 1940:241

***Antithamnionella* Lyle, 1922:347**

Antithamnionella breviramosa (E. Y. Dawson) E. M. Wollaston, in Womersley and Bailey, 1970:322

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Puerto Vallarta, JAL. WC: Faro de San Felipe, BC, to Cabo San Lucas, BCS. IS: Isla la Ventana, BC; Isla San Pedro Nolasco, SON; Isla Las Ánimas, ISG; Isla Cholla and Isla Espíritu Santo, BCS; Isla de la Piedra, SIN.

TYPE LOCALITY. Drift, epiphytic on *Sargassum palmeri* Grunow; Pebbly Beach, SE of Avalon, Santa Catalina Island, Los Angeles County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

Antithamnionella cf. spirographidis (Schiffner) E. M. Wollaston, 1968:345

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Canal de Infernillo, SON. IS: Isla Salsipuedes, ISG.

TYPE LOCALITY. Sacchetta, Gulf of Trieste, Adriatic Sea, Italy.

Antithamnionella sublittoralis (Setchell et N. L. Gardner) Athanasiadis, 1996a:119

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Los Frailes to San José del Cabo, BCS. IS: Bahía Salinas, Isla Carmen, and Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Epiphytic, dredged at 37 m depth; San José del Cabo, Baja California Sur, Gulf of California, Mexico.

***Irtugovia* Perestenko, 1996:204**

REMARKS. Placement of the genus *Irtugovia* in tribe Dohrnilleae is tentative and requires further study.

Irtugovia pacifica (Harvey) Perestenko, 1996:142

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca to Guaymas, SON.

SYNTYPE LOCALITIES. Two locales were given by Harvey (1862): Orcas Island, San Juan Islands, Washington, USA, and Esquimalt, British Columbia, Canada.

LECTOTYPE LOCALITY. Orcas Island, San Juan Islands, San Juan County, Salish Sea, Washington, USA (Lindstrom and Gabrielson, 1989).

REMARKS. Dawson (1962a, as *Antithamnion pacificum*; =*Antithamnionella pacifica* (Harvey) Wollaston) noted his earlier collections (Dawson, 1944) were missing. Unless the misplaced Gulf specimens can be found, new collections of *I. pacifica* are needed to verify its presence in the Gulf of California.

CERAMIOIDEAE TRIBE PTEROTHAMNIEAE ATHANASIADIS, 1996A:44

***Pterothamnion* Nägeli, in Nägeli et Cramer, 1855:66**

Pterothamnion orbignianum (Montagne) Nägeli, 1862:376

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla San Esteban, ISG.

TYPE LOCALITY. [Puerto] Callao, Constitutional Province of Callao, Peru.

Pterothamnion pectinatum (Kyllin) Athanasiadis et Kraft, 1994:130

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de San Lucas, BCS. IS: Isla Mejía, Roca Blanco, and Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, and Isla Las Ánimas, ISG.

TYPE LOCALITY. On piles at docks; Friday Harbor, San Juan Island, San Juan County, Washington, USA.

Pterothamnion plumula (J. Ellis) Nägeli in Nägeli et Cramer, 1855:66

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Santa Cruz, BCS.

TYPE LOCALITY. No locale was given by Ellis (1768, as *Conserva plumula*); Brighton [east Sussex], England, UK (Dawson, 1962a); probably Sussex, England, UK (Maggs and Hommersand, 1993).

Pterothamnion tepicense (E. Y. Dawson) Athanasiadis et Kraft, 1994:130

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON.

TYPE LOCALITY. Dredged 22 m depth on sandy bottom with abundant worm tubes; Bahía Tepoca, Sonora, Gulf of California, Mexico.

CERAMIAEAE SUBFAM. SPONGOCLONIOIDEAE DE TONI, 1903:1252

SPONGOCLONIOIDEAE TRIBE SPONGOCLONIEAE F. SCHMITZ ET HAUPTFLEISCH, 1897B:484, 491

***Pleonosporium* Nägeli, 1862:326, 339, nom. cons.**

Pleonosporium globuliferum Levring, 1941:647

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Punta Arena to Cabeza Ballena, BCS.

TYPE LOCALITY. “Ausserhalb Sanchez, Masafuera [Island]” (Levring, 1960:604, 647); Quebrada Sánchez, Isla Alejandro Selkirk (Isla Más Afuera), Islas Juan Fernández, Valparaíso Region, Chile.

Pleonosporium mexicanum E. Y. Dawson, 1962a:41

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Miramar, NAY. WC: Bahía de Loreto to Bahía de La Paz, BCS. IS: Isla San Jorge, SON; Isla Patos and Isla Partida (Isla Cordonazo), ISG; Isla Santa Cruz, BCS.

TYPE LOCALITY. Lowermost intertidal on small reef (3 km north of Belmar Hotel); Playa de Olas Atlas, vicinity of Mazatlán, Sinaloa, Gulf of California, Mexico.

Pleonosporium rhizoideum E. Y. Dawson, 1962a:42

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON, to Punta de Mita, NAY.

TYPE LOCALITY. Salina Cruz, Oaxaca, Pacific Mexico.

Pleonosporium squarulosum (Harvey) I. A. Abbott, 1972:262

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto to Bahía de La Paz, BCS.

TYPE LOCALITY. “Golden Gate, California” (Harvey, 1853:233) [entrance to San Francisco Bay; probably at westernmost entrance Land’s End or either Fort Point or below the Presidio, in the vicinity of the Golden Gate Bridge]; “San Francisco” (Abbott and Hollenberg, 1976:618), San Francisco County, northern California, USA.

Pleonosporium vancouverianum (J. Agardh) J. Agardh, 1892:37

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Chacala to Lo de Marcos, NAY. IS: Isla Coronado and Islas de Los Gemelos, BC.

TYPE LOCALITY. Vancouver Island, British Columbia, Canada.

SPYRIDIAEAE J. AGARDH, 1851:vii, 337

SPYRIDIAEAE TRIBE SPYRIDEAE F. SCHMITZ
ET P. HAUPTFLEISCH, 1897b:484, 499

Spyridia Harvey, 1833:259, 336

Spyridia cf. *filamentosa* [non *S. filamentosa* (Wulfen) Harvey, 1833:337]

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal, SON, to Bahía de Banderas, JAL. WC: Faro de San Felipe, BC, to Cabo San Lucas, BCS. IS: Isla Tiburón and Isla Turner, ISG; Isla San José, Isla Partida, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. *Spyridia filamentosa* (Wulfen) Harvey: Vienna? (Maggs and Hommersand, 1993); Adriatic Sea (Silva et al., 1996).

REMARKS. Apparently introduced into the upper Gulf in the 1970s (Norris, 2014), Gulf specimens tentatively referred to as “*S. cf. filamentosa*” need comparisons to see if they can be identified with one of the lineages of Zuccarello et al. (2002, 2004) or of Conklin and Sherwood (2012) or if they are one or more different species or possibly a new species.

CERAMIALES SUBORD. SPERMOTHAMNIINEAE FARLOW,
1881:107, 118

WRANGELIAEAE J. AGARDH, 1851:x, 701

WRANGELIAEAE TRIBE GRIFFITHSIEAE F. SCHMITZ
ET HAUPTFLEISCH, 1897b:483, 487

Anotrichium Nägeli, 1862:397

Anotrichium anthericephalum (E. Y. Dawson) Baldock, 1976:560

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to El Desemboque de los Seris, SON.

TYPE LOCALITY. Intertidal, north side of reef; on southwest tip of Isla Guadalupe, off Pacific coast of northern Baja California, Mexico.

Anotrichium furcellatum (J. Agardh) Baldock, 1976:560

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Punta Gorda to San José del Cabo, BCS. IS: Islas de Los Gemelos, BC.

TYPE LOCALITY. Near Amalfi, Sorrentine Peninsula, province of Naples, Tyrrhenian Sea, Italy.

Anotrichium multiramosum (Setchell et N. L. Gardner) Baldock, 1976:560

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Ensenada San Francisco, SON. WC: Bahía de Los Ángeles, BC, to Bahía de San Lucas, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Dredged 36.6 m depth; San José del Cabo, Baja California Sur, Gulf of California, Mexico.

Anotrichium secundum (Harvey ex J. Agardh) G. Furnari, in Cormaci et al., 1994:635

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Mazatlán, SIN. WC: Santa Teresa, BC, to Cabo Pulmo, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, and Isla Tiburón, ISG; Isla Coronado, BC; Isla San Pedro Nolasco, SON; Isla Tortuga, I. San Ildefonso, Isla Cholla, Isla Carmen, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. “Ad oras Capenses” (Agardh, 1851:85); Muizenberg, False Bay, Cape Province, South Africa (Silva et al., 1996).

Griffithsia C. Agardh, 1817:xxviii, nom. cons.

Griffithsia pacifica Kylin, 1925:58

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía Topolobampo, SIN. WC: San Felipe to Santa Teresa, BC. IS: Isla Pelicano, SON; Isla Tiburón, ISG.

TYPE LOCALITY. Dredged; off Turn Island, east of Friday Harbor, San Juan Island, San Juan County, Washington, USA.

WRANGELIAEAE TRIBE LEJOLISIEAE FELDMANN-MAZOYER,
1940:240, 371

Lejolisia Bornet, 1859:91

Lejolisia colombiana W. R. Taylor, 1945:265

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Cabo Pulmo to Cabeza Ballena, BCS.

TYPE LOCALITY. Isla Gorgona (Parque Nacional Natural Isla Gorgona), off the Pacific coast of Departamento de Valle del Cauca, Colombia.

Lejolisia hoshawii E. Y. Dawson, 1966b:64

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía de Loreto, BCS.

TYPE LOCALITY. On *Sargassum* in drift; Playa Hermosa, Puerto Peñasco, Sonora, Gulf of California, Mexico.

WRANGELIACEAE TRIBE SPERMOTHAMNIEAE
F. SCHMITZ ET HAUPTFLEISCH, 1897B:483, 485

***Spermothamnion* Areschoug, 1847:334**

Spermothamnion sp. of Ortega et al., 1987:[90]

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN.

REMARKS. Specimen of "*Spermothamnion* sp." from Ortega et al. (1987:[90], table 3) needs reexamination to determine its identification; it may be a species of *Spermothamnion* or possibly of *Tiffaniella*.

***Tiffaniella* Doty et Meñez, 1960:135**

Tiffaniella phycophila (W. R. Taylor) E. M. Gordon, 1972:125

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto to Bahía de La Paz, BCS.

TYPE LOCALITY. Black Beach, Isla Floreana (Charles Island; Isla Santa María), Galápagos Islands, Ecuador.

Tiffaniella saccorhiza (Setchell et N. L. Gardner) Doty et Meñez, 1960:138

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Arenosa, Puerto Peñasco, SON, to Punta de Mita, NAY. WC: Bahía de Los Ángeles, BC, to Bahía Concepción, BCS.

TYPE LOCALITY. On *Codium* sp.; Isla Guadalupe, off Pacific coast of northern Baja California, Mexico.

Tiffaniella snyderae (Farlow) I. A. Abbott, 1971:352

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Ensenada de San Francisco, SON. IS: Isla San Jorge, SON; Isla Patos, ISG.

SYNTYPE LOCALITIES. Santa Cruz, Santa Barbara, and San Diego, California (Farlow, 1899).

LECTOTYPE LOCALITY. Santa Cruz, Santa Cruz County, northern California, USA (Smith, 1944).

DASYACEAE KÜTZING, 1843:413

DASYACEAE SUBFAM. DASYOIDEAE DE TONI, 1903:776

***Dasya* C. Agardh, 1824:xxxiv, 211, nom. cons.**

Dasya pedicellata subsp. *stanfordiana* (Farlow) J. N. Norris et Bucher, in Bucher and Norris, 2014a:204

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Hermosa, Puerto Peñasco, SON, to Bahía Topolobampo, SIN. WC: Punta La Gringa, BC, to Caleta Santa María, BCS. IS: Isla Mejía, Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Bahía Agua Dulce, Isla Tiburón, and Isla Partida (Isla Cordonazo), ISG; Canal de Infernillo, SON; Isla Carmen and Isla Espíritu Santo, BCS; Isla María Magdalena, NAY.

SYNTYPE LOCALITIES. Isla Wolf (Isla Wainman; Wenman Island) and Punta Tortuga, Isla Isabela (Albemarle Island), both Galápagos Islands, Ecuador.

Dasya pedicellata subsp. *stanfordiana* var. *nudicaulis* (E. Y. Dawson) J. N. Norris et Bucher, in Bucher and Norris, 2014a:206

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC, to Puerto Escondido, BCS. IS: Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. "Taken by shrimp trawler from the south arm" of Bahía de Los Ángeles, Baja California, Gulf of California, Mexico (Dawson, 1963b:407).

Dasya sinicola var. *sinicola* (Setchell et N. L. Gardner) E. Y. Dawson, 1959a:32

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Mazatlán, SIN. WC: Playa El Coloradito, BC, to Cabeza Ballena, BCS. IS: Isla Ángel de la Guarda, Isla Partida, Isla San Esteban, and Isla Las Ánimas, ISG; Isla San Pedro Nolasco, SON; Isla San Ildefonso, Isla Monserrate, and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. La Paz, Baja California Sur, Gulf of California, Mexico.

Dasya sinicola var. *abyssicola* (E. Y. Dawson) E. Y. Dawson, 1963b:410

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Los Frailes, BCS.

TYPE LOCALITY. Dredged 41 m depth; Northwest Anchorage, San Clemente Island, Los Angeles County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

Dasya sinicola var. *californica* (N. L. Gardner) E. Y. Dawson, 1963b:409

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Hermosa, Puerto Peñasco, SON. WC: Bahía Concepción, BCS.

TYPE LOCALITY. La Jolla, San Diego County, southern California, USA.

Dasya spinigera E. Y. Dawson, 1963b:410

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON. WC: Bahía de San Lucas, BCS.

TYPE LOCALITY. Dredged on sand bottom, 20 m depth, Bahía de San Lucas, Baja California Sur, Gulf of California, Mexico.

**DASYACEAE SUBFAM. HETEROSIPHONIOIDEAE H.-G. CHOI,
KRAFT, I. K. LEE ET G. W. SAUNDERS, 2002:564*****Heterosiphonia* Montagne, 1842c:4**

Heterosiphonia crispella var. *laxa* (Børgesen) M. J. Wynne, 1985b:87

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Playa Los Cerritos, SIN. WC: Punta Arena to Bahía de San Lucas, BCS. IS: Caleta Partida, in channel (canal) between S end of Isla Partida and NW end of Isla Espíritu Santo, BCS.

TYPE LOCALITY. St. Croix, U.S. Virgin Islands, Caribbean Sea.

Heterosiphonia erecta N. L. Gardner, 1927d:99

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC, to Bahía de La Paz, BCS. IS: Isla Coronado and Islas de Los Gemelos, BC.

TYPE LOCALITY. Epiphytic on the seagrass *Phyllospadix*; La Jolla, San Diego County, southern California, USA.

**DELESSERiaceae BORY DE SAINT-VINCENT,
1828:181****DELESSERiaceae SUBFAM. DELESSERIOIDEAE
STIZENBERGER, 1860:40****DELESSERIOIDEAE TRIBE APOGLOSSEAE S.-M. LIN,
FREDERICQ ET HOMMERSAND, 2012:379*****Apoglossum* J. Agardh, 1898:190**

Apoglossum gregarium (E. Y. Dawson) M. J. Wynne, 1985a:169

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Patos and Isla Las Ánimas, ISG.

TYPE LOCALITY. Isla Las Ánimas (Isla San Lorenzo del Norte), Islas de San Lorenzo, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

**DELESSERIOIDEAE TRIBE CALOGLOSSEAE
M. J. WYNNE, 2001:411*****Caloglossa* (Harvey) G. Martens,
1869:234, 237**

Caloglossa apomeiotica J. A. West et Zuccarello, in West et al., 1994:383

GULF OF CALIFORNIA DISTRIBUTION. EC: Teacapán, SIN, to San Blas, NAY. WC: Bahía Balandra, Estero Zacatecas, and Ensenada de La Paz, Bahía de La Paz, BCS. IS: Isla Espíritu Santo, BCS.

TYPE LOCALITY. On prop roots of the red mangrove, *Rhizophora mangle*; Puerto San Carlos, within Bahía Magdalena, Pacific coast of Baja California Sur, Mexico.

Caloglossa leprieurii? (Montagne) G. Martens, 1869:234

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN.

TYPE LOCALITY. Sinnamary, northwest of Cayenne, Préfecture de la Région Guyane, French Guiana.

REMARKS. The identification of northern Gulf specimens with the western Atlantic *C. leprieurii* was queried by Norris and Kraysky (2014).

***Taenioma* J. Agardh, 1863:1256**

Taenioma perpusillum (J. Agardh) J. Agardh, 1863:1257

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON, to Punta de Mita, NAY. WC: Bahía San Luis Gonzaga, BC, to Bahía de La Paz, BCS. IS: Isla Estanque and Isla Tiburón, ISG; Isla Espíritu Santo, BCS.

TYPE LOCALITY. San Agustín, “presumably along coast of Oaxaca in Isthmus of Tehuantepec region” (Dawson, 1962a:83), Oaxaca, Mexico.

**DELESSERIOIDEAE TRIBE GRINNELLIAE
M. J. WYNNE, 2011:409*****Grinnellia* Harvey, 1853:91**

Grinnellia lanceolata E. Y. Dawson, 1944:322

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC, to Punta Gorda, BCS. IS: Isla Salsipuedes, ISG.

TYPE LOCALITY. Dredged 34–50 m depths; off Punta Gorda, NE end of Bahía San José del Cabo, Baja California Sur, Gulf of California, Mexico.

**DELESSERIOIDEAE TRIBE HYPOGLOSSEAE
M. J. WYNNE, 2001:408*****Branchioglossum* Kylin, 1924:8**

Branchioglossum bipinnatifidum (Montagne) M. J. Wynne, 1983:442

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to Ensenada de San Francisco, SON. IS: Isla Estanque, Isla Patos, Isla Tiburón, and Isla San Esteban, ISG; Islas de Los Gemelos, BC; Isla San Ildefonso, BCS.

TYPE LOCALITY. Valparaíso, Valparaíso Province, central Chile.

Branchioglossum undulatum E. Y. Dawson, 1949b:17

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Hermosa, Puerto Peñasco, to Punta Cirio, SON. IS: Isla San Ildefonso, BCS.

TYPE LOCALITY. On a floating *Macrocystis* holdfast; San Miguel Passage, off northwest end of Santa Rosa

Island, Santa Barbara County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

***Hypoglossum* Kützing, 1843:444**

Hypoglossum attenuatum N. L. Gardner, 1927d:104 var.

attenuatum

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to Guaymas, SON. WC: Bahía San Luis Gonzaga, BC, to Arrecife de Cabo Pulmo, BCS. IS: Rocas Consag and Isla La Ventana, BC; Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Epiphytic on *Sargassum*; Puerto Libertad, Sonora, Gulf of California, Mexico.

Hypoglossum attenuatum var. *abyssicolum* (W. R. Taylor)

E. Y. Dawson, 1962a:77

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Piaxtla, SIN, to Playa Guayabitos and Playa Las Peñas, NAY. WC: Bahía San Francisquito, BC, to Bahía de San Lucas, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Tiburón, and Isla San Esteban, ISG; Bahía Salinas, Isla Carmen, and Canal de San Lorenzo, Isla Espíritu Santo, BCS; Isla Isabel and Isla María Magdalena, NAY.

TYPE LOCALITY. Dredged 56 m depth; off Bahía Correo Postal (Post Office Bay), Isla Floreana (Charles Island; Isla Santa María), Galápagos Islands, Ecuador.

DELESSERIACEAE SUBFAM. NITOPHYLLOIDEAE STIZENBERGER, 1860:40

NITOPHYLLOIDEAE TRIBE VALERIEMAYAEAE M. J. WYNNE ET A. J. K. MILLAR, IN WYNNE, 2001:414

***Polyneurella* E. Y. Dawson, 1944:322**

Polyneurella hancockii var. *hancockii* E. Y. Dawson, 1944:323

GULF OF CALIFORNIA DISTRIBUTION. WC: Arrecife de Cabo Pulmo to Punta Los Frailes, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla San Lorenzo, and Canal de Infiernillo (midway in channel between east coast of Isla Tiburón and Campo Víboras on Sonora coast), ISG.

TYPE LOCALITY. Dredged 22–44 m depths; Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Polyneurella hancockii var. *rhizoidea* E. Y. Dawson, 1962a:86

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de San Lucas, BCS.

TYPE LOCALITY. Dredged ~36.6 m depth; Bahía de San Lucas, Baja California Sur, Gulf of California, Mexico.

DELESSERIACEAE SUBFAM. PHYCODYROIDEAE S.-M. LIN, FREDERICQ ET HOMMERSAND, 2001:896

PHYCODYROIDEAE TRIBE MYRIOGRAMMEAE HOMMERSAND ET FREDERICQ, 1997A:119

***Myriogramme* Kylin, 1924:55**

Myriogramme auricularis E. Y. Dawson, 1966b:66

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Rasa and Isla San Lorenzo, ISG.

TYPE LOCALITY. Isla San Lorenzo (Isla San Lorenzo del Sur), Islas de San Lorenzo, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Myriogramme caespitosa E. Y. Dawson, 1949b:19

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Puertecitos, BC, to Bahía de La Paz, BCS. IS: Isla Coronado, BC; Isla Estanque, Isla Patos, Isla Par-tida (Isla Cordonazo), and Isla San Lorenzo, ISG.

TYPE LOCALITY. On floating holdfast of *Macrocystis*; San Miguel Passage, off Santa Rosa Island, Santa Barbara County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

Myriogramme divaricata E. Y. Dawson, 1944:323

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. IS: Roca Consag, Isla Coronado, and Isla la Ventana, BC; Puerto Refugio, Isla Ángel de la Guarda, and Isla Estanque, ISG.

TYPE LOCALITY. Dredged 22–44 m depths; Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

PHYCODYROIDEAE TRIBE PHYCODYRAEAE M. J. WYNNE, 2001:413

***Erythroglossum* J. Agardh, 1898:176**

Erythroglossum californicum (J. Agardh) J. Agardh, 1898:176

GULF OF CALIFORNIA DISTRIBUTION. EC: El Desemboque de los Seris, SON. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, and Isla San Esteban, ISG.

TYPE LOCALITY. Santa Barbara, Santa Barbara County, southern California, USA.

***Phycodrys* Kützing, 1843:444**

Phycodrys amplissima E. Y. Dawson, 1962a:91

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to El Desemboque de los Seris, SON. IS: Isla San Esteban, ISG.

TYPE LOCALITY. Depth of 10–36 m; off Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Phycodrys lucasana E. Y. Dawson, 1962a:88

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de San Lucas, BCS. IS: Isla Salsipuedes, ISG.

TYPE LOCALITY. Dredged 36 m depth; Bahía de San Lucas, Baja California Sur, Gulf of California, Mexico.

Phycodrys simplex E. Y. Dawson, 1962a:90

GULF OF CALIFORNIA DISTRIBUTION. IS: Canal Mejía (between Isla Mejía and Isla División) and Puerto Refugio, Isla Ángel de la Guarda, and Isla San Lorenzo, ISG.

TYPE LOCALITY. Dredged 22–44 m depths; Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

***Sorella* Hollenberg, 1943:577**

Sorella delicatula (N. L. Gardner) Hollenberg, 1943:577

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Coronado and Islas de Los Gemelos, BC.

TYPE LOCALITY. Cast ashore; San Pedro, Los Angeles County, southern California, USA.

Sorella pinnata Hollenberg, 1943:578

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Libertad to El Desemboque de los Seris, SON. IS: Isla San Jorge, SON; Rocas Consag and Islas de Los Gemelos, BC; Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Intertidal rocks; Laguna Beach, Orange County, southern California, USA.

PHYCODYOIDEAE TRIBE SCHIZOSERIDEAE HOMMERSAND ET FREDERICQ, 1997b:488

***Schizoseris* Kylin, 1924:67**

Schizoseris pygmaea E. Y. Dawson, 1950c:157

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Tucson, Bahía de la Choya, to Playa Estación, Puerto Peñasco, SON. WC: Puertecitos, BC, to Bahía de La Paz, BCS. IS: Isla San Jorge and Isla San Pedro Nolasco, SON; Isla Patos and Isla Partida (Isla Cordonazo), ISG; Isla la Ventana, BC; Isla Cholla, BCS.

TYPE LOCALITY. Intertidal rocks; Isla Partida [norte] (Isla Cordonazo), Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

SARCOMENIACEAE WOMERSLEY, 2003:148

***Platysiphonia* Børgesen, 1931:28**

Platysiphonia decumbens M. J. Wynne, 1969:190

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla Las Ánimas, ISG.

TYPE LOCALITY. West Beach, Whidbey (Whidby) Island, Island County, Puget Sound, Washington, USA.

RHODOMELACEAE ARESCHOUG, 1847:260

RHODOMELACEAE TRIBE ALSIDIEAE ARDISSONE, 1883:352

***Bryothamnion* Kützinger, 1843:433**

REMARKS. *Bryothamnion* has been treated as member of this tribe or as being of uncertain tribe classification. Its placement into a tribe needs further elucidation.

Bryothamnion pacificum W. R. Taylor, 1945:296

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. Dredged 5.5–9.0 m depth; near Isla María Magdalena, Islas Mariás, Nayarit, Mexico.

***Digenea* C. Agardh, 1822:388**

Digenea simplex (Wulfen) C. Agardh, 1822:389

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Punta Aguja, Bahía Concepción to Cabo Pulmo, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda and Isla Turner, ISG; Isla Tortuga, Isla Monserrate, and Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Trieste, Gulf of Trieste (in northern Adriatic Sea, near border with Slovenia), northeast Italy.

RHODOMELACEAE TRIBE BOSTRYCHIEAE FALKENBERG, 1901:504, 732, 747

***Bostrychia* Montagne, 1842a:39**

Bostrychia moritziana (Sonder ex Kützinger) J. Agardh, 1863:862

GULF OF CALIFORNIA DISTRIBUTION. EC: Miramar, NAY, to Barra de Navidad, JAL. WC: Bahía de La Paz, BCS.

SYNTYPE LOCALITIES. Antilles, West Indies [archipelago in Caribbean Sea composed of the islands of the Greater Antilles and the Lesser Antilles], and French Guiana (Silva et al., 1996); Venezuela, St. Lucia, and French Guiana (Womersley, 2003).

LECTOTYPE LOCALITY. Cumaná, mouth of Río Manzanares, Sucre State, Venezuela (Womersley, 2003).

Bostrychia radicans (Montagne) Montagne, 1842b:661

GULF OF CALIFORNIA DISTRIBUTION. EC: Río Mayo on N side of Yavaros (22 km SE of Municipio de Huatabampo), SON; Bahía de Banderas, NAY/JAL. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Probably an estuary of the Cayenne River; near Cayenne, French Guiana.

**RHODOMELACEAE TRIBE LOPHOTHALIEAE F. SCHMITZ
ET FALKENBERG, 1897:421, 427, 445**

***Veleroa* E. Y. Dawson, 1944:335**

Veleroa subulata E. Y. Dawson, 1944:335

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON. WC: Playa El Coloradito, BC; Punta Los Frailes to Cabo Pulmo, BCS.

TYPE LOCALITY. Epizoic on a small hydroid, dredged 22 m depth; Bahía Tepoca, Sonora, Gulf of California, Mexico.

***Murrayellopsis* E. Post, 1962:[3]**

REMARKS. The taxonomic status of the genus *Murrayellopsis* is problematic. Stewart (1989, 1991) considered it cogenetic with *Veleroa*, whereas others continued to recognize the two as distinct genera (e.g., Millar, 2000). Its taxonomic status and relationship to *Veleroa* requires further investigation.

Murrayellopsis dawsonii E. Post, 1962: [3]

TYPE LOCALITY. Among turf algae in garibaldi fish (*Hypsypops rubicundus*) nests, 6–12 m depths; New Hope Rock, off Point Loma, San Diego County, southern California, USA.

REMARKS. *Murrayellopsis dawsonii* has been reported by Hernández-Herrera et al. (2005) on intertidal rocky platforms of La Mora and El Tamarindo, vicinity of Bahía Tenacatita, southern Jalisco. Gulf of California specimens referred to *Murrayellopsis* and *Veleroa* need further study to verify their identities and their relationship.

**RHODOMELACEAE TRIBE LOPHOSIPHONIEAE
KYLIN EX ATHANASIADIS, 2016b:1238**

≡ *Lophosiphonia gruppe* Kylin, 1956:498, 538, 586, 591

***Lophosiphonia* Falkenberg, in Schmitz
et Falkenberg, 1897:459**

Lophosiphonia? mexicana E. Y. Dawson, 1944:333

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Estanque, ISG.

TYPE LOCALITY. Isla Estanque (Pond Island), off southeastern end of Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. Norris (2014) tentatively transferred this species to *Neosiphonia* as *N. mexicana* (E. Y. Dawson) Norris. Díaz-Tapia et al. (2017) indicated in their study of the type of *Lophosiphonia mexicana* that it was probably not a member of the Polysiphonieae. They also proposed leaving the species in *Lophosiphonia* until further studies can clarify its generic placement.

**RHODOMELACEAE TRIBE STREBLOCLADIEAE DÍAZ-TAPIA
ET MAGGS, IN DÍAZ-TAPIA ET AL., 2017A:141**

***Melanothamnus* Bornet et Falkenberg,
in Falkenberg, 1901:684, 688**

REMARKS. On the basis of phylogenetic analysis and morphological features, Díaz-Tapia et al. (2017) treated the genus *Neosiphonia* M.-S. Kim et I. K. Lee (1999) as a synonym of *Melanothamnus* Bornet et Falkenberg.

Melanothamnus bajacali (Hollenberg) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:6

Neosiphonia bajacali (Hollenberg) Mamoozadeh et Freshwater, 2011:274

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN.

TYPE LOCALITY. Outer reef tide pools; south tip of Isla Guadalupe, off Pacific coast of northern Baja California, Mexico.

Melanothamnus cheloniae (Hollenberg et J. N. Norris) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:6

Neosiphonia cheloniae (Hollenberg et J. N. Norris) J. N. Norris, 2014:263

GULF OF CALIFORNIA DISTRIBUTION. EC: Canal de Infiernillo (between coast of Sonora and E coast of Isla Tiburón), SON.

TYPE LOCALITY. Epizoic on a black sea turtle, *Chelonia mydas agassizii*; in Canal de Infiernillo (between Campo Víboras and Campo Oona on Sonora coast and opposite east coast of Isla Tiburón), Sonora, Gulf of California, Mexico.

Melanothamnus concinnus (Hollenberg) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:6

Neosiphonia concinna (Hollenberg) J. N. Norris, 2014:270

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Tucson, Puerto Peñasco, SON, to Mazatlán, SIN. WC: Puerto Calamajué, BC, to Bahía Agua Verde, BCS. IS: Isla San Jorge, SON; Islas de los Gemelos, BC; Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, and Isla San Esteban, ISG; Isla Tortuga, BCS; Isla de Venados, SIN.

TYPE LOCALITY. Epiphytic on other algae; near Scripps Institution of Oceanography (University California, San Diego), La Jolla, San Diego County, southern California, USA.

Melanothamnus eastwoodiae (Setchell et N. L. Gardner) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:6

Neosiphonia eastwoodiae (Setchell et N. L. Gardner) S.-D. Xiang, 2004:94.

Neosiphonia eastwoodiae (Setchell et N. L. Gardner) J. N. Norris, 2014:264, *nom. inval.*

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal, SON, to Bahía Chacala, NAY. WC: Bahía San Francisco, BC, to Bahía de San Lucas, BCS. IS: Isla Alcatraz, SON; Bahía Agua Dulce, Isla Tiburón, ISG; Isla la Ventana, BC; Isla Monserrate, Isla San Francisco, Isla Cholla, Bahía Salinas and Puerto Ballandra, Isla Carmen, and Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. On rocks; South Anchorage, Isla Guadalupe, off Pacific coast of Baja California, Mexico.

Melanothamnus johnstonii (Setchell et N. L. Gardner) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:8

Neosiphonia johnstonii (Setchell et N. L. Gardner) J. N. Norris, 2014:271

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to Punta Prieta, Bahía Topolobampo, SIN. WC: Punta la Gringa, Bahía de Los Ángeles, BC, to Punta Los Frailes, BCS. IS: Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Bahía Agua Dulce, Isla Tiburón, Isla San Esteban, and Isla Partida (Isla Cordonazo), ISG; Isla Carmen, Isla San Ildefonso, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. On *Gracilaria* sp.; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Melanothamnus masonii (Setchell et N. L. Gardner) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:10

Neosiphonia masonii (Setchell et N. L. Gardner) J. N. Norris, 2014:267

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON.

TYPE LOCALITY. Epiphytic on the seagrass *Zostera*; Isla Guadalupe, off Pacific coast of northern Baja California, Mexico.

Melanothamnus savatieri (Hariot) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:10

Neosiphonia savatieri (Hariot) M.-S. Kim et I. K. Lee, 1999:279

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to Nueva Guaymas, Bahía San Carlos, SON. WC: Puertecitos to Bahía de Las Ánimas, BC. IS: Rocas Consag and Isla la Ventana, BC.

TYPE LOCALITY. Epiphytic on larger algae; Yokosuka, on Tokyo Bay, Kanagawa Prefecture, Honshū Island, Japan.

Melanothamnus simplex (Hollenberg) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:9

Neosiphonia simplex (Hollenberg) Y.-P. Lee, 2008:316

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, SON, to Lo de Marcos y Playa San Francisco, NAY. WC: Bahía San Luis Gonzaga, BC, to Cabeza Ballena, BCS. IS: Isla San Jorge, SON; Isla Estanque, Isla Turner, and Isla Partida (Isla Cordonazo), ISG; Isla San Ildefonso and Isla Espíritu Santo, BCS; Isla de Venados, SIN.

TYPE LOCALITY. On intertidal rocks; Laguna Beach, Orange County, southern California, USA.

REMARKS. McIvor et al. (2001) found that “*Neosiphonia simplex*” in San Diego, California, had been incorrectly identified and was actually an introduced species, *N. harveyi* (J. W. Bailey) M.-S. Kim, H.-G. Choi, Guiry et G. W. Saunders, in Choi et al. (2001), which is now *Melanothamnus harveyi* (Bailey) Díaz-Tapia et Maggs, in Díaz-Tapia et al. (2017). Gulf of California specimens identified as “*N. simplex*” should be reexamined and morphologically and molecularly compared to type locality *M. simplex* and *M. harveyi* to determine if one or both are in the Gulf (Norris, 2014).

Melanothamnus sphaerocarpus (Børgesen) Díaz-Tapia et Maggs, in Díaz-Tapia et al., 2017:9

Neosiphonia sphaerocarpa (Børgesen) M.-S. Kim et I. K. Lee, 1999:280

GULF OF CALIFORNIA DISTRIBUTION. EC: La Cruz de Huanacastle, NAY, to Careyes, JAL.

TYPE LOCALITY. Magens Bay (Store Nordsidebugt), St. Thomas, U.S. Virgin Islands.

RHODOMELACEAE TRIBE POLYSIPHONIEAE ARDISSONE, 1883:357

Polysiphonia Greville, 1823: pl. 90

Polysiphonia beaudettei Hollenberg, 1961:348

Neosiphonia beaudettei (Hollenberg) M.-S. Kim et I. A. Abbott, 2006:33

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. On sand bottom, 4–6 m depth; Isla Ixtapa (Isla Grande), northwest of Zihuatanejo, Guerrero, Mexico.

REMARKS. Described from Pacific Mexico it has been recorded in the Gulf of California as *N. beaudettei*. Díaz-Tapia et al. (2017) recommend referral of the species to *P. beaudettei* until its phylogenetic affinities and generic assignment can be elucidated.

Polysiphonia bifurcata Hollenberg, in Taylor, 1945:301

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Dredged 92 m depth off sandy bottom; Bahía Gardner, Isla Española, Galápagos Islands, Ecuador.

Polysiphonia confusa Hollenberg, 1961:350

Neosiphonia confusa (Hollenberg) J. N. Norris, 2014:271

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, to El Desemboque de los Seris, SON.

TYPE LOCALITY. Mid-intertidal rocks; Corona del Mar, Orange County, southern California, USA.

***Polysiphonia decussata* Hollenberg, 1942:780**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. On intertidal boulders; near mouth of Topanga Canyon (northwest of Santa Monica and east of Malibu), Los Angeles County, southern California, USA.

***Polysiphonia flaccidissima* Hollenberg, 1942:783**

Neosiphonia flaccidissima (Hollenberg) M.-S. Kim et I. K. Lee, 1999:279

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda to Bahía Bacochibampo, SON; Playa Guayabitos and Playa Las Peñas, NAY. WC: Santa Rosalía to Puerto Escondido, BCS. IS: Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. On a coralline alga; rocky point, Laguna Beach, Orange County, California, USA.

REMARKS. Although treated as conspecific with *Neosiphonia sertularioides* (Grateloup) M.-S. Kim et I. K. Lee by Mamoozadeh and Freshwater (2012) and Nam and Kang (2012), the phylogenetic relationship of the eastern Pacific *P. flaccidissima* and the European *P. sertularioides* (Grateloup) J. Agardh (1863) needs further study.

***Polysiphonia hendryi* N. L. Gardner, 1927d:101**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Cast ashore; Santo Domingo (about 30°40'N), Pacific coast of northern Baja California, Mexico.

***Polysiphonia hollenbergii* J. N. Norris, 2014:275**

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla la Ventana, BC.

TYPE LOCALITY. Isla la Ventana, Bahía de Los Ángeles, Baja California, Gulf of California, Mexico.

***Polysiphonia homoia* Setchell et N. L. Gardner, 1930:162**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Epiphytic on *Codium*; Isla Guadalupe, off Pacific coast of northern Baja California, Mexico.

***Polysiphonia nathanielii* Hollenberg, 1958:63**

TYPE LOCALITY. On rocks, low tide level; 3 miles (4.8 km) north of Santa Monica, Los Angeles County, southern California, USA (Hollenberg, 1958:63; see also Hollenberg, 1944:479, as *Polysiphonia dictyurus*; non *P. dictyurus* J. Agardh, 1847).

REMARKS. *Polysiphonia nathanielii* is reported from Tenacatita (Senties, 1995), which is about 128 km (80 miles) south of Cabo Corrientes, the southeastern entrance to the Gulf of California. It is listed here to call attention to its possible presence in the Gulf.

***Polysiphonia pacifica* Hollenberg, 1942:777**

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Chueca to Estero Santa Rosa, SON; Mazatlán, SIN. WC: Estero Zacatecas (Ensenada de La Paz) to Bahía de La Paz and Cabo Pulmo to Los Frailes, BCS.

TYPE LOCALITY. Santa Cruz, Santa Cruz County, central California, USA.

***Polysiphonia pacifica* var. *delicatula* Hollenberg, 1942:778**

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON, to Lo de Marcos y Playa San Francisco, NAY. WC: San Felipe, BC, to Bahía de San Lucas, BCS. IS: Isla Cholla, BCS.

TYPE LOCALITY. Low-tide level on wharf pilings; Monterey Municipal Wharf, Monterey, Monterey County, central California, USA.

***Polysiphonia pacifica* var. *gracilis* Hollenberg, 1942:778**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Dredged; Orcas Island, San Juan Islands, San Juan County, northwest Washington, USA.

***Polysiphonia paniculata* Montagne, 1842:254**

Neosiphonia paniculata (Montagne) J. N. Norris, 2014:273

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda to Guaymas, SON. WC: San Felipe, BC. IS: Isla Alcatraz, SON; Canal de Infiernillo (between Campo Víboras and Campo Oona on Sonora coast and E coast of Isla Tiburón) and Bahía Agua Dulce, Isla Tiburón, ISG.

TYPE LOCALITY. Intertidal, on *Ulva nematoidea*; Peru.

***Polysiphonia scopulorum* var. *villum* (J. Agardh) Hollenberg, 1968:81**

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON. EC: Punta Arena to Cabo Pulmo, BCS. IS: Isla Ángel de la Guarda, Isla Partida (Isla Cordónazo), Isla Turner, and Isla Estanque, ISG.

TYPE LOCALITY. “Ad littus americanae tropicae” (Agardh, 1863:941); “probably on the central coast of [Pacific] México” (Dawson, 1944:333).

***Polysiphonia sonorensis* Hollenberg, 1942:779**

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Empalme to Guaymas, SON.

TYPE LOCALITY. Afloat along southeastern shore of bay; Bahía Empalme, Sonora, Gulf of California, Mexico.

***Polysiphonia* sp. of Hollenberg and Norris, 1977:16**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía San Francisco, BC.

REMARKS. The characteristics of *Polysiphonia* sp. (see: Norris, 2014:275–276) suggest it may be a new species and probably belongs in another genus, possibly *Melanothamnus*.

Polysiphonia subtilissima Montagne, 1840:199

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON.

TYPE LOCALITY. Cayenne, Arrondissement of Cayenne, French Guiana (Guyane).

Uncertain Record: *Polysiphonia scopulorum* Harvey, 1855a:540

REMARKS. Recorded in the southern Gulf from Mazatlán with a taxonomic query (Mendoza-González et al., 1994), its taxonomic identification should be reinvestigated.

**RHODOMELACEAE TRIBE PTEROSIPHONIEAE
FALKENBERG, 1901:261, 723, 752**

***Amplisiphonia* Hollenberg, 1939:380**

REMARKS. *Amplisiphonia* had been placed in the “*Placophora* Group” sensu Kylin (1956:497, 528) (e.g., Womersley, 2003; Norris, 2014), but the genus was recently supported as a member of tribe Pterosiphonieae (Savoie and Saunders, 2016).

Amplisiphonia? *pacifica* Hollenberg, 1939:382

GULF OF CALIFORNIA DISTRIBUTION. WC: Puerto Calamajué, BC.

TYPE LOCALITY. On lower intertidal rocky shore; Corona Del Mar, Orange County, southern California, USA.

REMARKS. The generic placement of the Gulf specimens has been queried by Norris (2014, as *Amplisiphonia?* *pacifica*).

***Pterosiphonia* Falkenberg, in F. Schmitz
and Falkenberg, 1897:443**

Pterosiphonia californica Kylin, 1941:39

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Cabeza Ballena to Cabo San Lucas, BCS.

TYPE LOCALITY. La Jolla, San Diego County, southern California, USA.

Pterosiphoniella* E. Y. Dawson, 1963b:422Pterosiphoniella williamsii* E. Y. Dawson, 1963b:423

GULF OF CALIFORNIA DISTRIBUTION. WC: Cabeza Ballena, BCS.

TYPE LOCALITY. On fine sand and rock bottom, dredged 6 m depth; Isla Concha, Laguna Ojo de Liebre (Scammon's Lagoon), El Vizcaino Biosphere Reserve (UNESCO World Heritage Site), Pacific coast of Baja California Sur, Mexico.

***Symphyocladia* Falkenberg, in Schmitz
and Falkenberg, 1897:443**

Symphyocladia dendroidea (Montagne) Savoie et G. W. Saunders, 2016:929

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda to Guaymas, SON. WC: San José del Cabo,

BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla Tiburón, ISG.

TYPE LOCALITY. Callao (city), Bahía Callao, Provincia Callao, Peru.

REMARKS. Previously reported in the Gulf of California as *Pterosiphonia dendroidea* (Montagne) Falkenberg (1901), the species was recently shown to belong in the genus *Symphyocladia* (Savoie and Saunders, 2016).

Tayloriella* Kylin, 1938:18Tayloriella dictyurus* (J. Agardh) Kylin, 1956:505

GULF OF CALIFORNIA DISTRIBUTION. EC: Segundo Cerro Prieto (N of Kino Nuevo), Bahía Kino, SON; Lo de Marcos y Playa San Francisco, NAY. WC: La Paz, BCS.

TYPE LOCALITY. “Pochetti” (Agardh, 1847:16); “presumably in the Isthmus of Tehuantepec, Oaxaca” (Dawson, 1963b:417); probably near Pochutla, Oaxaca, Mexico.

REMARKS. Gulf of California specimens referred to *T. dictyurus* need to be genetically compared to the Pacific Mexico type with the South Africa generitype, *Tayloriella tenebrosa* (Harvey) Kylin (see Savoie and Saunders, 2016).

**RHODOMELACEAE TRIBE HERPOSIPHONIEAE F. SCHMITZ
ET FALKENBERG, 1897:421, 428, 457**

Herposiphonia* Nägeli, 1846:238Herposiphonia hollenbergii* E. Y. Dawson, 1963b:430

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Concepción to Cabo San Lucas, BCS.

TYPE LOCALITY. “Surf-dashed” granite headland; Salina Cruz, Oaxaca, Mexico.

Herposiphonia littoralis Hollenberg, 1970:69

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON; Punta de Mita, NAY. WC: Puerto Escondido to Cabo San Lucas, BCS. IS: Isla Patos, ISG; Isla Espíritu Santo, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. Corona del Mar, Orange County, southern California, USA.

Herposiphonia plumula (J. Agardh) Hollenberg, 1970:68

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía Agua Verde to San José del Cabo, BCS. IS: Isla San Jorge, SON; Isla Patos and Isla San Esteban, ISG; Isla Carmen and Isla San Ildefonso, BCS.

TYPE LOCALITY. Santa Barbara, Santa Barbara County, southern California, USA.

Herposiphonia plumula var. *parva* (Hollenberg) Hollenberg, 1970:69

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON.

TYPE LOCALITY. Lady's Harbor, Santa Cruz Island, Santa Barbara County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

Herposiphonia spinosa E. Y. Dawson, 1959a:34

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía de Los Ángeles, BC, to Cabo San Lucas, BCS. IS: Bahía Agua Dulce, Isla Tiburón, ISG; Isla Partida, BCS.

TYPE LOCALITY. Isla Partida [sur] (off N end of Isla Espíritu Santo), Baja California Sur, Gulf of California, Mexico.

Herposiphonia verticillata (Harvey) Kylin, 1925:74

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY. WC: Bahía Concepción, BCS.

TYPE LOCALITY. "California" (Harvey, 1833:165); "either San Francisco or Monterey" (Dawson, 1963b:437); "probably Monterey" (Abbott and Hollenberg, 1976:720), Monterey County, central California, USA.

RHODOMELACEAE TRIBE CHONDRIEAE **J. AGARDH, 1841:20**

***Acanthophora* J. V. Lamouroux, 1813:132**

Acanthophora spicifera (M. Vahl) Børgesen, 1910:201

GULF OF CALIFORNIA DISTRIBUTION. WC: Playa El Caimancito, Bahía de La Paz, BCS.

TYPE LOCALITY. St. Croix, U.S. Virgin Islands.

REMARKS. Native to the Caribbean Sea, *Acanthophora spicifera* is a highly invasive species. First recorded in the Pacific from Hawaii (Russell, 1992), more recently, *A. spicifera* has been recognized in the southern Gulf on *Sargassum* in Bahía de La Paz (Ávila et al., 2012). Méndez-Trejo et al. (2014) studied the effects of *A. spicifera* on the epibiotia of the southern Gulf. Its potential spread elsewhere in the Gulf should be monitored.

***Chondria* C. Agardh, 1817: xviii, 443**

Chondria acrorhizophora Setchell et N. L. Gardner, 1924a:766

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Bahía Agua Verde to Bahía de San Lucas, BCS. IS: Isla Patos and Isla Partida (Isla Cordonazo), ISG.

TYPE LOCALITY. Eureka, near La Paz, Baja California Sur, Gulf of California, Mexico.

Chondria arcuata Hollenberg, 1945:447

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Yelapa, JAL.

TYPE LOCALITY. In algal turf, on low intertidal rocks; Laguna Beach, Orange County, southern California, USA.

Chondria decipiens Kylin, 1941:41

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL.

TYPE LOCALITY. On low intertidal rocks; Pacific Grove, Monterey County, central California, USA.

REMARKS. A California species, specimens of *C. decipiens* from the southernmost end of the Gulf should be reexamined to verify their identification.

Chondria repens Børgesen, 1924a:299

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Rapa Nui (Easter Island), Province Isla de Pascua (Valparaíso Region), Chile.

Chondria species A of Bucher and Norris, 2014a:242

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Bahía Topolobampo, SIN. WC: Playa El Coloradito to Bahía San Luis Gonzaga, BC; Bahía Coyote to Bahía de La Paz, BCS. IS: Isla Patos and Isla Tiburón, ISG.

REMARKS. Morphologically, *Chondria* species A is in general agreement with the Gulf of California specimens identified as "*Chondria dasyphylla*" following Dawson (1963b), but it appears closer to *C. pacifica* Setchell et N. L. Gardner (Bucher and Norris, 2014a) or may possibly be a new taxon.

RHODOMELACEAE TRIBE LAURENCIEAE **F. SCHMITZ, 1889:447**

***Erythrocytis* J. Agardh, 1876:638**

Erythrocytis saccata (J. Agardh) P. C. Silva, 1952:308

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Palmilla to Cabeza Ballena, BCS.

TYPE LOCALITY. "Hab. ad oras Californiae" (Agardh, 1849:89); "probably in vicinity of Monterey" (Smith, 1944:380; Dawson, 1963b:441), Monterey County, central California, USA.

***Laurencia* J. V. Lamouroux, 1813:130**

Laurencia aguilar-rosasorum J. N. Norris, 2014:250

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación to Playa Las Conchas, Puerto Peñasco, SON.

TYPE LOCALITY. On intertidal platform; Playa Estación, Puerto Peñasco, Sonora, Gulf of California, Mexico.

Laurencia decidua E. Y. Dawson, 1954a:8

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Intertidal rocks; Isla San Benedicto, Islas Revillagigedo, Colima, Mexico.

Laurencia fenicalii J. N. Norris, 2014:252

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación to Playa Las Conchas, Puerto Peñasco, to Bahía San Carlos, SON.

TYPE LOCALITY. On intertidal platform; Cumpleaños Tide Pool, Playa Estación, Puerto Peñasco, Sonora, Gulf of California, Mexico.

Laurencia hancockii E. Y. Dawson, 1944:328

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON, to Punta de Mita, NAY. WC: Bahía Agua Verde to Cabeza Ballena, BCS.

TYPE LOCALITY. Low intertidal rocks; Bahía Agua Verde, Baja California Sur, Gulf of California, Mexico.

Laurencia iriei J. N. Norris et Fenical, in Norris, 2014:253

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación to Playa Las Conchas, Puerto Peñasco, SON. WC: Bahía Concepción, BCS.

TYPE LOCALITY. Intertidal; attached to sides of Cumpleaños Tide Pool, Playa Estación, Puerto Peñasco, Sonora, Gulf of California, Mexico.

Laurencia johnstonii Setchell et N. L. Gardner, 1924a:764

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía Topolobampo, SIN. WC: Bahía de Los Ángeles, BC, to Cabeza Ballena, BCS. IS: Bahía Agua Dulce, Isla Tiburón, and Isla Turner, ISG; Isla San Marcos, Isla Carmen, Isla San Diego, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Isla San Marcos (southeast of Santa Rosalía), Baja California Sur, Gulf of California, Mexico.

Laurencia lajolla E. Y. Dawson, 1958:77

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON; Mazatlán, SIN. WC: Bahía Concepción to Cabo Pulmo, BCS. IS: Isla Bargo, BCS.

TYPE LOCALITY. Among coralline algal turf; reef flat below north end of Neptune Place, Wind-and-Sea Beach ("Windansea" surfing beach), La Jolla, San Diego County, southern California, USA.

Laurencia masonii Setchell et N. L. Gardner, 1930:155

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Cast ashore, epiphytic on *Sargassum palmeri*; South Anchorage, Isla Guadalupe, off Pacific coast of northern Baja California, Mexico.

REMARKS. Known in the southern Gulf only from the report of Huerta-Múzquiz and Mendoza-González (1985), the finding of additional specimens will be helpful to verify its presence in the Gulf of California.

Laurencia richardsii E. Y. Dawson, 1954a:7

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN.

TYPE LOCALITY. Intertidal rocks exposed to heavy surf; NE side of Isla San Benedicto, Islas Revillagigedo, Colima, Mexico.

Laurencia subcorymbosa E. Y. Dawson, 1963a:467

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to Punta Palmilla, BCS.

TYPE LOCALITY. Beach drift, epiphytic on *Sargassum*; 5 km north of Cabo Pulmo, Baja California Sur, Gulf of California, Mexico.

Laurencia voragina W. R. Taylor, 1945:290

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Arena, BCS.

TYPE LOCALITY. Forming turfs, low intertidal exposed to severe surf; Morros del Potosí (White Friars Islands or White Friars Rocks), 15 km east of Zihuatanejo, Guerrero, Mexico.

Uncertain Record: *Laurencia glandulifera* (Kützinger) Kützinger, 1849:855

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. IS: Isla Tiburón, ISG.

TYPE LOCALITY. Trieste, Gulf of Trieste (in northern Adriatic Sea, near border with Slovenia), northeastern Italy.

REMARKS. Mateo-Cid et al. (2006, as *L. glandulifera*) recorded "*Chondrophyucus glandulifera*" in the upper Gulf. There has been much confusion and misapplication of the species name and its generic placement. Although Yamada (1931), Saito (1985), and Cecere et al. (1996) recognized *L. glandulifera* (Kützinger) Kützinger and *L. paniculata* Kützinger (1849) as distinct taxa, others considered the two conspecific (e.g., Silva et al., 1996; Abbott, 1999; Lipkin and Silva, 2002; Lobban and Tsuda, 2003; Norris, 2014). Recently, Furnari et al. (2016) provided support that *L. glandulifera* and *L. paniculata* were taxonomically different taxa. Gulf specimens need critical studies to determine their generic placement and species identification (Norris, 2014).

Excluded Species: *Laurencia pacifica* Kylin, 1941:42

REMARKS. Northern Gulf of California specimens identified as "*L. pacifica*" (Dawson, 1963b) were shown to be three new species, each distinct from the northeastern Pacific *L. pacifica* Kylin (Fenical and Norris, 1975; Norris, 2014), and it was excluded from the Gulf of California marine flora (Norris, 2014).

Osmundea Stackhouse, 1809:56, 79

Osmundea blinksii (Hollenberg et I. A. Abbott) K. W. Nam, in Nam et al., 1994:393

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC.

TYPE LOCALITY. Exposed rocky shores; just south of Malpaso Creek, Monterey County, central California, USA.

Osmundea estebaniana (Setchell et N. L. Gardner) J. N.

Norris, 2014:257

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY, to Bahía de Banderas, JAL. WC: Bahía de Los Ángeles, BC, to Bahía de Loreto, BCS; IS: Isla Patos, Bahía Agua Dulce, Isla Tiburón, and Isla San Esteban, ISG; Isla Coronado, BC.

TYPE LOCALITY. On rocks; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Osmundea sinicola (Setchell et N. L. Gardner) K. W. Nam, in Nam et al., 1994:393

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Bahía Concepción to Bahía San José del Cabo, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Isla Turner, and Isla San Esteban, ISG; Isla San Marcos, Isla Cholla, and Isla San Ildefonso, BCS.

TYPE LOCALITY. Epiphytic on *Sargassum*; Eureka (23°36'N, 109°36'W), vicinity of La Paz, Baja California Sur, Gulf of California, Mexico.

***Palisada* K. W. Nam, 2007:53**

Palisada paniculata (Kützinger) J. N. Norris, 2014:259

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Guaymas, SON. WC: Bahía de Los Ángeles, BC, to Cabeza Ballena, BCS. IS: Isla San Jorge, SON; Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Bahía Agua Verde, Isla Tiburón, Isla San Esteban, and Isla Partida (Isla Cordonazo), ISG.

SYNTYPE LOCALITIES. In Adriatic and Mediterranean Seas (Kützinger, 1849).

LECTOTYPE LOCALITY. “Mari mediterraneo” (Kützinger, 1865:22).

Palisada pedrochei J. N. Norris, 2014:261

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Bahía Topolobampo, SIN; Punta de Mita, NAY. WC: Playa El Coloradito, BC, to Punta Palmilla, BCS. IS: Isla Turner, ISG; Isla Tortuga, Isla San Marcos, Isla San Ildefonso, Isla Carmen, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. On tidal platform; Playa Estación, Puerto Peñasco, Sonora, Gulf of California, Mexico.

REMARKS. Norris (2014) recognized the southern Gulf *Laurencia papillosa* var. *pacifica* Setchell et N. L. Gardner (1924a) to belong in the genus *Palisada*. Since there is no priority outside of rank (*International Code of Nomenclature* . . . [ICN], McNeill et al., 2012), he described it as a new species, *Palisada pedrochei*, to avoid confusion in using the name “*pacifica*,” an epithet already used not only for the variety, *L. papillosa* var. *pacifica*, but also in a different species, *L. pacifica* Kylin (1941).

Palisada perforata (Bory de Saint-Vincent) K. W. Nam, 2007:54

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Rade de Sainte-Croix (Santa Cruz de Tenerife), Islas Canarias, Spain.

REMARKS. An Atlantic species, *Palisada perforata* has been reported in the southern Gulf (Cruz-Ayala et al., 2001). More collections will be helpful to verify its identification in the Gulf of California.

GIGARTINALES F. SCHMITZ, 1892:18

CAULACANTHACEAE KÜTZINGER, 1843:389

***Caulacanthus* Kützinger, 1843:395**

Caulacanthus okamurae Yamada, 1933:278

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, to Punta San Pedro, SON. WC: Bahía Agua Verde, BCS. IS: Isla Turner, ISG.

SYNTYPE LOCALITIES. “Hokkaidô to Formosa” (Yamada, 1933:278); although not specifically designated by Yamada (1933), type locality is probably Hokkaidô Island, Hokkaidô Prefecture, Japan.

REMARKS. Recorded in Pacific Mexico and the Gulf of California, it is considered to be an introduced species (L. Aguilar-Rosas et al., 2014, as *C. ustulatus*). Although genetically separable, the morphological distinction between the western Pacific *C. okamurae* and the European *C. ustulatus*, remains problematic (see Norris, 2014). Gulf of California specimens referred to *C. okamurae*, as well as those of Pacific Mexico, need further comparisons with type materials to verify their identification.

CYSTOCLONIACEAE KÜTZINGER, 1843:390, 404

***Hypnea* J. V. Lamouroux, 1813:131**

Hypnea cervicornis J. Agardh, 1852a:451

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Tucson, Puerto Peñasco, SON, to Playa Norte and Punta Derecha, SIN. WC: San Felipe, BC, to Bahía de San Lucas, BCS. IS: San Jorge, SON; Isla San Pedro Mártir, ISG; Isla San Juan Nepomuceno, Isla Partida, and Isla Espíritu Santo, BCS.

SYNTYPE LOCALITIES. Warm Atlantic from Brazil, West Indies, and Mexico and Indian Ocean from Mauritius (Agardh, 1852a).

LECTOTYPE LOCALITY. Near Bahia (city; now Salvador), Bahia (state), northeastern Brazil (Haroun and Prud'homme van Reine, 1993; Yamagishi and Masuda, 1997:140).

Hypnea johnstonii Setchell et N. L. Gardner, 1924a:758

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Bahía Concepción to Arrecife de Cabo Pulmo, BCS. IS: Isla Ángel de la Guarda, Isla Estanque, Isla Tiburón, Isla Turner, and Isla San Esteban, ISG; Isla San Pedro Nolasco, SON; Isla Tortuga, BCS.

TYPE LOCALITY. On upper sublittoral rocks; Isla Ángel de la Guarda (Setchell and Gardner, 1924a); Isla Estanque (Pond Island), off southeastern end of Isla Ángel de la Guarda (Dawson, 1961a), Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Hypnea nidulans Setchell, 1924:161

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Catalina (near Guaymas), SON. WC: Bahía Agua Verde, BCS. IS: Isla Estanque and Isla Turner, ISG.

TYPE LOCALITY. Forming dense clumps among stag-horn corals (*Acropora pharaonis*); Aua Reef, Tutuila Island, Samoa Islands, American Samoa.

REMARKS. Although considered conspecific with *H. pannosa* by Dawson (1961a), Geraldino et al. (2010) showed type locality *H. nidulans* Setchell and *H. pannosa* J. Agardh were distinct species. Later Norris (2014) treated Gulf "*H. nidulans*" sensu Dawson (1944; non *H. nidulans* Setchell, 1924) as *H. pannosa*. Reexamination of Gulf records and genetic studies of new specimens are required to confirm the presence of *H. nidulans* in the Gulf.

Hypnea pannosa J. Agardh, 1847:14

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Bahía San Luis Gonzaga, BC, to Cabeza Ballena, BCS. IS: Isla Estanque and Isla Turner, ISG; Isla San Pedro Nolasco, SON; Isla Cholla, Isla San Ildefonso, Isla San Diego, and Isla Espíritu Santo, BCS; Isla de Venados, SIN; Isla Isabel, Isla Larga, and Isla María Magdalena, NAY.

TYPE LOCALITY. San Agustín (St. Augustín), Bahías de Huatulco, Oaxaca, Mexico.

Hypnea spicifera (Suhr) Harvey, in J. Agardh, 1847:14

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN.

TYPE LOCALITY. "Algoa-Bai" (Suhr, 1834:731); Algoa Bay, Cape Province, South Africa.

REMARKS. Specimens were referred to the South African *Hypnea spicifera* by Dawson (1961a) with a taxonomic query. Additional collections are needed to verify its presence in the Gulf of California.

Hypnea spinella (C. Agardh) Kützinger, 1847:23

GULF OF CALIFORNIA DISTRIBUTION. EC: Piedras del Burro, SON, to Bahía de Banderas, JAL. WC: El Machorro, BC, to Cabeza Ballena, BCS. IS: Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. "Indiae occidentalis" (Agardh, 1822:323); collected in coral, West Indies, Caribbean Sea (Dawson, 1961a).

LECTOTYPE. Dansk "Vestindien" [Danish West Indies; now U.S. Virgin Islands] (Haroun and Prud'homme van Reine, 1993:122).

Hypnea valentiae (Turner) Montagne, 1841:161

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Hermosa, Puerto Peñasco, SON, to Tecapán, SIN. WC: Playa

El Coloradito, BC, to Cabeza Ballena, BCS. IS: Isla Ángel de la Guarda, Isla Patos, Isla Tiburón, Isla Turner, and Canal de Infernillo (channel between Isla Tiburón and Campo Vitoras on Sonora coast), ISG; Isla San Diego, Isla Carmen, Isla Monserrate, Isla San Juan Nepomuceno, Isla Partida, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Red Sea.

Hypnea variabilis Okamura, 1909:21

GULF OF CALIFORNIA DISTRIBUTION. WC: Cabo San Lucas, BCS.

REMARKS. A Japanese species, it has been reported from the Pacific coast of Baja California (Dawson, 1961a). There is also one record of *Hypnea variabilis* in the southern Gulf of California (Martínez-Lozano et al., 1991). Additional collections are needed to verify its presence in the Gulf of California.

Hypnea volubilis Searles, in Schneider and Searles, 1976:53

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON.

TYPE LOCALITY. At 23–24 m depths; offshore reef, North Carolina, USA.

DICRANEMATACEAE KYLIN, 1932:65

***Dicranema* Sonder, 1845:56**

Dicranema rosaliae Setchell et N. L. Gardner, 1924a:745

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Hermosa, Puerto Peñasco, SON, to Topolobampo, SIN. WC: Santa Rosalía to Bahía de La Paz, BCS. IS: Isla Ángel de la Guarda, ISG; Isla Espíritu Santo, BCS.

TYPE LOCALITY. Santa Rosalía, Baja California Sur, Gulf of California, Mexico.

REMARKS. The generic placement of the Gulf endemic *Dicranema rosaliae* is uncertain and requires further morphological and genetic analyses to resolve its status (Norris, 2014).

DUMONTIACEAE BORY DE SAINT-VINCENT, 1828:197

***Dudresnaya* P. Crouan et H. Crouan, 1835:98, nom. cons.**

Dudresnaya colombiana W. R. Taylor, 1945:162

GULF OF CALIFORNIA DISTRIBUTION. WC: Playa Santa Teresa, BC. IS: Isla Mejía, and Isla Estanque, ISG.

TYPE LOCALITY. Intertidal; Isla Gorgona (Parque Nacional Natural Isla Gorgona), off the Pacific coast of Departamento de Valle del Cauca, Colombia.

GIGARTINACEAE BORY DE SAINT-VINCENT, 1828:149

***Chondracanthus* Kützinger, 1843:399**

Chondracanthus acicularis? (Roth) Fredericq, in Hommersand et al., 1993:117

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to Puerto Lobos, SON. WC: Bahía de Los Ángeles, BC. IS: Isla La Ventana, BC.

SYNTYPE LOCALITIES. “In variis submarinis corporibus” (Wulfen, 1803:63).

LECTOTYPE LOCALITY. Adriatic Sea (Dixon and Irvine, 1977b:237).

REMARKS. Northern Gulf of California specimens were tentatively referred to *C. acicularis* by Norris and Fredericq (2014a). Hughey and Hommersand (2008) noted that their Gulf *G. acicularis* differed molecularly from the Atlantic *C. acicularis* and suggested that herbarium specimens of Gulf *C. acicularis* sensu Dawson (1961a) may possibly be ecological forms of *C. squarulosus*. It is also possible it may be another species.

Chondracanthus chamissoi (C. Agardh) Kützing, 1843:399

GULF OF CALIFORNIA DISTRIBUTION. WC: La Paz, BCS. IS: Isla San Jorge, SON; Isla San Esteban, ISG.

TYPE LOCALITY. Chile.

Chondracanthus exasperatus (Harvey et Bailey) Hughey, in Hughey et al., 1996:23

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Los Frailes, BCS.

TYPE LOCALITY. Opposite Fort Nisqually (near DuPont, Pierce County), Puget Sound, Washington, USA (Hughey and Hommersand, 2008).

Chondracanthus intermedius (Suringar) Hommersand, in Hommersand et al., 1993:115

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Los Algodones, SON, to Mazatlán, SIN. WC: Playa Santa Teresa, BC, to Cabo Pulmo, BCS.

TYPE LOCALITY. Sea of Japan (East Sea), on west coast of Japan.

Chondracanthus squarulosus (Setchell et N. L. Gardner)

Hughey, P. C. Silva et Hommersand, 2001:1105

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda to Bahía Bacochibampo, SON. WC: El Machorro, BC, to Bahía de Loreto, BCS. IS: Isla San Jorge, SON; Isla Coronado, BC; Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Bahía Agua Dulce, Isla Tiburón, Isla Turner, and Isla San Esteban, ISG.

TYPE LOCALITY. Isla Coronado (Isla Smith), north-east of Bahía de Los Ángeles, Baja California, Gulf of California, Mexico.

REMARKS. A Gulf endemic (Norris, 2014), it was apparently accidentally introduced with Gulf of California clams transported into Bahía San Quintín, Pacific coast of Baja California (L. Aguilar-Rosas et al., 2014).

Chondracanthus tepidus (Hollenberg) Guiry, in Hommersand et al., 1993:115

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía Topolobampo, SIN. WC: Playa

El Coloradito, BC, to La Paz, BCS. IS: Isla San Jorge and Isla San Pedro Nolasco, SON; Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Bahía Agua Dulce, Isla Tiburón, and Isla Rasa, ISG; Islas de Los Gemelos, BC.

TYPE LOCALITY. Balboa, upper Newport Bay, Orange County, southern California, USA.

Chondracanthus zertucheii J. N. Norris et Fredericq, in Norris and Fredericq, 2014a:333

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía San Francisquito, BC. IS: Isla Las Ánimas, ISG; Isla Tortuga, BCS.

TYPE LOCALITY. Bahía San Francisquito, Baja California, Gulf of California, Mexico.

Uncertain Record: *Chondracanthus canaliculatus* (Harvey)

Guiry, in Hommersand et al., 1993:115

REMARKS. Recorded in the northern Gulf from Segundo Cerro Prieto, Bahía Kino, SON, with a taxonomic query by Mendoza-González and Mateo-Cid (1986); its presence in the upper Gulf of California is doubtful.

Uncertain Record: *Chondracanthus harveyanus* (Kützing)

Guiry, in Hommersand et al., 1993:115

REMARKS. A temperate species known in northern Pacific Baja California (Dawson, 1961a; Hughey and Hommersand, 2008), there is only one record for the Gulf of California from Cabo Corrientes, JAL (Huerta-Múzquiz, 1978, as *Gigartina harveyana*). Additional collections are needed to verify its presence in the Gulf of California.

Mazzaella G. De Toni, 1936:[4]

Mazzaella diffusa (E. Y. Dawson) J. N. Norris et Fredericq, in Norris and Fredericq, 2014a:335

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG; Isla la Ventana, BC.

TYPE LOCALITY. Intertidal rocky shore; Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Mazzaella digitata (E. Y. Dawson) J. N. Norris et Fredericq, in Norris and Fredericq, 2014a:336

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Partida and Isla Rasa, ISG.

TYPE LOCALITY. On rocky shore in lower intertidal; Isla Partida (Isla Cordonazo), Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Mazzaella hancockii (E. Y. Dawson) Fredericq, in Hommersand et al., 1993:110

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Patos and Isla San Esteban, ISG; Isla San Pedro Nolasco, SON.

TYPE LOCALITY. On rocks, low intertidal; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Uncertain Record: *Mazzaella affinis* (Harvey) Fredericq, in Hommersand et al., 1993:110

REMARKS. Recorded in the northern Gulf from Roca Rojo, Bahía Kino, SON, by Mendoza-González and Mateo-Cid (1986), more collections are needed to verify its presence.

Uncertain Record: *Mazzaella leptorhynchos* Leister, in Hommersand et al., 1993:110

REMARKS. Recorded from Roca Rojo, Bahía Kino, SON, with uncertainty as to its identification (Mendoza-González and Mateo-Cid, 1986), its occurrence in the Gulf of California is doubtful.

KALLYMENIACEAE KYLIN, 1928:56

Kallymenia J. Agardh, 1842:98

Kallymenia baldwinii E. Y. Dawson, 1966b:62

GULF OF CALIFORNIA DISTRIBUTION. IS: Islas Santa Inés, BCS.

TYPE LOCALITY. On subtidal rocks, from trawl at about 20 m depth; off Islas Santa Inés (Islas Santa Inez), about 6.4 km southeast of Punta Chivato (Bahía Concepción), Baja California Sur, Gulf of California, Mexico.

Kallymenia bleckii E. Y. Dawson, 1966b:59

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta El Púlpito, BCS. IS: Isla San Pedro Nolasco, SON.

TYPE LOCALITY. Subtidal, 15 m depth; Punta El Púlpito, Baja California Sur, Gulf of California, Mexico.

Kallymenia norrisii Hollenberg et I. A. Abbott, 1965:1183

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San José and Isla Santo Espíritu, BCS.

TYPE LOCALITY. Dredged on shale, 5–10 fathoms (9.1–18.3 m) deep; south end of Monterey Bay, off Monterey [city], Monterey County, central California, USA.

Kallymenia pertusa Setchell et N. L. Gardner, 1924a:746

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta La Gringa, BC. IS: Isla Mejía, Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, Canal de Ballenas (between W coast of Isla Ángel de la Guarda and E coast of Baja California), Isla San Esteban, and Isla San Pedro Mártir, ISG; Isla San José, BCS.

TYPE LOCALITY. Isla San Pedro Mártir (about 35 km south of Punto de Monumento on southern end of Isla Tiburón), Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Pugetia Kylin, 1925:30

Pugetia mexicana E. Y. Dawson, 1966b:62

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta La Gringa to Bahía San Francisquito, BC. IS: Isla Mejía,

Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla San Esteban, and Isla San Lorenzo, ISG.

TYPE LOCALITY. Dredged 19–30 m depth; off Isla San Lorenzo (Isla San Lorenzo Sur), Islas San Lorenzo, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Erythrophyllum J. Agardh, 1872:10

Erythrophyllum oblongifructum (Setchell) Saunders, in Saunders et al., 2017:92

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Pedro Nolasco, SON.

TYPE LOCALITY. Cast ashore, on stipes of kelp; Whidbey (Whidby) Island, Island County, Puget Sound, Washington, USA.

REMARKS. Previously recorded in the Gulf of California as *Kallymeniopsis oblongifructa* (Setchell) G. I. Hansen (1997). Saunders et al. (2017) provided phylogenetic evidence that *K. oblongifructa* belongs in the genus *Erythrophyllum* and relegated the Crossocarpaceae Perstenko (1975, 1977) to synonymy with Kallymeniaceae. Its presence in the Gulf needs to be reexamined.

Excluded Species: *Callophyllis violacea* J. Agardh, 1885:34

REMARKS. Its report from Bahía Bacochibampo (Norris, 1973) was based on an incorrectly labeled locality of the specimen (Norris, 2014). Although also reported from Guaymas (Mendoza-González and Mateo-Cid, 1986), its presence in the northern Gulf is doubtful.

PHYLLOPHORACEAE WILLKOMM, 1854:148

Ahnfeltiopsis P. C. Silva et DeCew, 1992:576

Ahnfeltiopsis gigartinooides (J. Agardh) P. C. Silva et DeCew, 1992:577

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Playitas, JAL.

TYPE LOCALITY. San Agustín (St. Agustín), Bahías de Huatulco, Oaxaca, Mexico.

REMARKS. Gametangial and tetrasporic phases were described from Bahía de Banderas in the vicinity of southeastern entrance to the Gulf (León-Álvarez et al., 1997).

Ahnfeltiopsis hancockii (E. Y. Dawson) J. N. Norris et Fredericq, in Norris and Fredericq, 2014b:347

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Lobos, SON, to Mazatlán, SIN. WC: San Felipe, BC, to Santa Rosalía, BCS. IS: Isla Alcatraz and Isla Ardilla, SON; Isla Patos and Isla Tiburón, ISG.

TYPE LOCALITY. “Point approximately 3 miles [~4.8 km] north of Kino” (Dawson, 1944:300); probably in the vicinity of Kino Nuevo (north of Kino Viejo), Bahía Kino, Sonora, Gulf of California, Mexico.

Ahnfeltiopsis serenei (E. Y. Dawson) Masuda, 1993:3

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL. WC: Cabo San Lucas, BCS.

TYPE LOCALITY. On “roches noires” (rhyolite rock); north end of Con Se Tre Island (Île de Tre), off Nha Trang, Khanh Hoa Province, south central Vietnam.

Besa Setchell, 1912:237

Besa divaricata (Holmes) M. S. Calderon et S. M. Boo, in Calderon et al., 2016:3(e-version)/433(print)

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Lobos, SON. IS: Isla Turner, ISG.

TYPE LOCALITY. Shimoda, southern Izu Peninsula, Shizuoka Prefecture, Honshū Island, Japan.

REMARKS. *Besa divaricata* has been reported in the northern Gulf as *Ahnfeltiopsis divaricata* (Holmes) Masuda (1993).

Besa leptophylla (J. Agardh) M. S. Calderon et K. A. Miller, in Calderon et al., 2016:3(e-version)/433(print)

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Chueca to Segundo Cerro Prieto, SON; Punta de Mita, NAY, to Cabo Corrientes, JAL. IS: Isla Pelicano and Roca Rojo, Bahía Kino, SON.

TYPE LOCALITY. Santa Cruz, Santa Cruz County, central California, USA.

REMARKS. *Besa leptophylla* was recorded in the northern Gulf as *Ahnfeltiopsis leptophylla* (J. Agardh) P. C. Silva et DeCew (1992). Gulf of California specimens need critical study to confirm its identification in the Gulf.

Gymnogongrus Martius, 1833:27

Gymnogongrus? carnosus Setchell et N. L. Gardner, 1924a:745

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Pedro Mártir, ISG.

TYPE LOCALITY. Cast ashore; Isla San Pedro Mártir, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Gymnogongrus guadalupensis E. Y. Dawson, 1961a:249

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN. WC: Cabeza Ballena to Cabo San Lucas, BCS. IS: Isla de la Piedra, SIN.

TYPE LOCALITY. Outer reef and pools; southernmost tip of Isla Guadalupe, off Pacific coast of Baja California, Mexico.

Gymnogongrus johnstonii (Setchell et N. L. Gardner) E. Y. Dawson, 1954b:294

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Lo de Marcos, NAY. WC: Campo Hawaii, BC, to Cabo Pulmo, BCS. IS: Puerto Refugio, Isla Ángel de la

Guarda, and Isla San Esteban, ISG; Isla Coronado, BC; Isla Tortuga, BCS.

TYPE LOCALITY. Isla Tortuga (off Puerto Santa Rosalía), Baja California Sur, Gulf of California, Mexico.

Gymnogongrus martinensis Setchell et Gardner, 1937:78

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL.

TYPE LOCALITY. Isla San Martín, off Pacific coast of Baja California, Mexico.

Gymnogongrus tenuis J. Agardh, 1849:88

GULF OF CALIFORNIA DISTRIBUTION. EC: Lo de Marco and Playa San Francisco, NAY.

TYPE LOCALITY. “Hab. ad insulae Indiae occidentalis” (Agardh, 1849:88); West Indies, Caribbean Sea.

REMARKS. A Caribbean species (Wynne, 2011), *Gymnogongrus tenuis* has also been reported in the southern Gulf from Nayarit (Mateo-Cid and Mendoza-González, 1992).

Petroglossum Hollenberg, 1943:571

Petroglossum parvum Hollenberg, 1945:450

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Salsipuedes, ISG.

TYPE LOCALITY. Intertidal; Laguna Beach, Orange County, southern California, USA.

SOLIERIACEAE J. AGARDH, 1876:502

SOLIERIACEAE TRIBE AGARDHIELLEAE P. W. GABRIELSON ET HOMMERSAND, 1982:57

Agardhiella F. Schmitz, in Schmitz et Hauptfleisch, 1896:371

Agardhiella mexicana E. Y. Dawson, 1944:288

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, to Ensenada de San Francisco, SON. WC: Bahía San Luis Gonzaga, BC, to Bahía de San Lucas, BCS. IS: Canal Mejía (channel off Isla Mejía) and Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Dredged 4 m depth; south shore of Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

SOLIERIACEAE TRIBE SOLIERIEAE J. AGARDH, 1852b:721

Sarcodiotheca Kylin, 1932:15

Sarcodiotheca dichotoma (M. Howe) E. Y. Dawson, 1944:290

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Libertad to Bahía Bacoichampo, SON. WC: Bahía de

Los Ángeles, BC, to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla San Esteban, and Isla San Pedro Mártir, ISG; Isla La Ventana, BC; Isla Tortuga, Isla Carmen, and Canal de San Lorenzo, off Isla Espíritu Santo, BCS.

TYPE LOCALITY. Vicinity of La Paz, Baja California Sur, Gulf of California, Mexico.

Sarcodiotheca fuscata (Setchell et N. L. Gardner) Kylin, 1932:16

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada Grande, Bahía San Pedro (between Bahía San Carlos and Tastiota), SON. WC: Punta La Gringa, Bahía de Los Ángeles, BC. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla San Esteban, ISG; Isla María Magdalena, NAY.

TYPE LOCALITY. West coast of Whidbey (Whidby) Island, Island County, Puget Sound, Washington, USA.

Sarcodiotheca gaudichaudii (Montagne) P. W. Gabrielson, 1982:93

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía La Choya (?) to Guaymas, SON. WC: Bahía de Los Ángeles, BC, to San Jose del Cabo, BCS. IS: Isla Coronado and Isla La Ventana, BC; Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Paíta (seaport on south side of Bahía de Paíta), Paíta Province, northwestern Peru.

Sarcodiotheca linearis Setchell et N. L. Gardner, 1937:80

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Gorda to Bahía de San Lucas, BCS. IS: Isla Tiburón (?), ISG.

TYPE LOCALITY. Bahía de San Lucas, Baja California Sur, Gulf of California, Mexico.

Sarcodiotheca taylorii E. Y. Dawson, 1961a:227

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Los Frailes, BCS. IS: Isla Estanque, ISG; Isla La Ventana, BC; Isla María Magdalena, NAY.

TYPE LOCALITY. Isla María Magdalena, Islas Marías, off Nayarit, Gulf of California, Mexico.

**Tacanoosca J. N. Norris, P. W. Gabrielson
et D. P. Cheney, in Norris, 2014:360**

Tacanoosca uncinata (Setchell et N. L. Gardner) J. N. Norris, P. W. Gabrielson et D. P. Cheney, in Norris, 2014:361

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Mazatlán, SIN. WC: Playa El Colorado to Bahía San Francisquito, BC. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Tiburón, Isla Turner, Isla San Esteban, Isla Las Ánimas, Isla San Lorenzo, and Isla San Pedro Mártir, ISG; Isla Coronado, and Isla de Los Gemelos.

TYPE LOCALITY. On rocks; Isla Las Ánimas (Isla San Lorenzo Norte), Islas de San Lorenzo, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Wurdemannia Harvey, 1853:245

Wurdemannia miniata (Sprengel) J. Feldmann et G. Hamel, 1934:544

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía San Carlos, SON. WC: Bahía de Loreto to Bahía La Paz, BCS. IS: Isla Carmen, BCS.

TYPE LOCALITY. Vicinity of Montpellier, Hérault Department, France, Mediterranean Sea.

WEEKSIACEAE I. A. ABBOTT, 1968:181

Weeksia Setchell, 1901:128

Weeksia coccinea (Harvey) S. C. Lindstrom, 1986:531

GULF OF CALIFORNIA DISTRIBUTION. EC: El Desemboque de los Seris, SON. EC: Bahía de Los Ángeles, BC. WC: Bahía de San Lucas, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla Tiburón, ISG; Islas de Los Gemelos, BC.

TYPE LOCALITY. Griffin Bay (south of Friday Harbor), San Juan Island, San Juan County, Washington, USA.

Weeksia templetonii Setchell et N. L. Gardner, 1937:76

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto to Punta Los Frailes, BCS. IS: Isla Coronado, BC; Canal de San Lorenzo, off Isla Espíritu Santo, BCS.

TYPE LOCALITY. Dredged 38 m depth; off Isla Cedros, off Pacific coast of Baja California, Mexico.

**PEYSSONNELIALES KRAYESKY, FREDERICQ
ET J. N. NORRIS, IN KRAYESKY ET AL., 2009:384**

PEYSSONNELIACEAE DENIZOT, 1968:86, 308

**Cruoriella P. Crouan et H. Crouan,
1859:289**

Cruoriella fissurata E. Y. Dawson, 1953:109

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON. WC: Punta Aguja to Cabeza Ballena, BCS. IS: Isla San Lorenzo, ISG.

TYPE LOCALITY. On intertidal rocks; Cabeza Ballena, Baja California Sur, Gulf of California, Mexico.

Cruoriella mexicana (E. Y. Dawson) Denizot, 1968:149

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON, to Punta de Mita, NAY. WC: San Felipe, BC, to Bahía de Loreto, BCS.

TYPE LOCALITY. On mollusk shells, dredged 13–15 m depths; Isla Coronado Sur (South Island; 32°24.5'N, 117°13.8'W), Islas Los Coronados, off Pacific coast of northern Baja California, Mexico.

***Metapeyssonnellia Boudouresque,
Coppejans et Marcot, 1976:288***

Metapeyssonnellia mexicana (E. Y. Dawson) D. L. Ballantine et H. Ruíz, 2011:50

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Peñasco, Puerto Peñasco, SON, to Manzanillas, NAY.

TYPE LOCALITY. On granite outcrop; southeast side of Bahía de Acapulco, Guerrero, Mexico.

Metapeyssonnellia sp. A of Krayesky and Norris, 2014:370

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación to Playa Las Conchas, Puerto Peñasco, SON.

Peyssonnellia Decaisne, 1841:168

Peyssonnellia conchicola Piccone et Grunow, in Piccone, 1884b:317

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Concepción to Cabo San Lucas, BCS.

TYPE LOCALITY. Massawa, Eritrea, Ethiopia, Red Sea.

Peyssonnellia dubyi P. Crouan et H. Crouan, 1844:368

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, SON, to Miramar, NAY. IS: Isla Isabel, NAY.

TYPE LOCALITY. Brest, Finistère Département, Brittany, northwest France.

Peyssonnellia hancockii (E. Y. Dawson) Denizot, 1968:135, 310

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto to Cabeza Ballena, BCS.

TYPE LOCALITY. South shore, Isla Benito del Este (East Island or East Benito), Islas San Benito (~25 km west of Isla Cedros), off Pacific coast of Baja California, Mexico.

Peyssonnellia japonica (Segawa) Yoneshigue, 1984:134

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación to Playa Las Conchas, Puerto Peñasco, SON.

TYPE LOCALITY. Crusts on gastropod mollusk shell, *Omphalius rusticus* (= *Tegula rustica*); Sirahama, Miyake-jima, Izu Islands (Fuji-Hakone-Izu National Park), Japan, Philippine Sea.

Peyssonnellia mexicana E. Y. Dawson, 1953:106

GULF OF CALIFORNIA DISTRIBUTION. EC: Manzanillas, NAY. IS: Isla Las Ánimas, ISG.

TYPE LOCALITY. Granite rock outcrop; southeast side of Bahía de Acapulco, Guerrero, Mexico.

Peyssonnellia orientalis (Weber-van Bosse) Cormaci et G. Furnari, 1987:757

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Cabo Corrientes, JAL. WC: San Felipe, BC, to Punta Palmilla, BCS. IS: Isla San Jorge, Isla Pelicano,

and Isla San Pedro Nolasco, SON; Isla Cholla, Bahía Salinas, Isla Carmen, Isla Monserrate, Isla San Francisco, and Bahía San Gabriel and Canal de San Lorenzo, Isla Espíritu Santo, BCS; Isla Larga, NAY.

SYNTYPE LOCALITIES. "None specifically designated, seventeen Dutch East Indian localities [were] indicated from intertidal to 120 m depth" (Dawson, 1953:104); "Philippine Islands and various locales in Indonesia, including Semau and Solor" (Silva et al., 1996:213).

Peyssonnellia pacifica Kylin, 1925:25

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN.

TYPE LOCALITY. On shell of limpet, *Patella* (mollusk); south of False Bay, southwest coast of San Juan Island, San Juan County, Washington, USA.

Peyssonnellia rubra (Greville) J. Agardh, 1851:502

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Norte and Punta Derecha, SIN. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Ionian Islands (seven principal islands and numerous smaller islands), Ionian Sea, six off west coast and one off the southern tip of Greece.

Peyssonnellia squamaria (S. G. Gmelin) Decaisne ex J. Agardh, 1842:93

GULF OF CALIFORNIA DISTRIBUTION. WC: San José del Cabo, BCS. IS: Isla San Ildefonso and Islas Santa Inés (Islas Santa Inez), BCS.

TYPE LOCALITY. Mediterranean Sea.

CRYPTONEMIALES F. SCHMITZ, 1892:21

HALYMENIACEAE BORY DE SAINT-VINCENT, 1828:158

***Cryptonemia* J. Agardh, 1842:100**

Cryptonemia angustata (Setchell et N. L. Gardner)

E. Y. Dawson, 1954b:261

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Punta La Gringa, Bahía de Los Ángeles, BC, to Bahía de San Lucas, BCS. IS: Isla Coronado and Isla de Los Gemelos, BC.

TYPE LOCALITY. Dredged 30 m depth; Bahía Santa María, west coast of Isla Magdalena (outside of Bahía Magdalena), Pacific Coast of Baja California Sur, Mexico.

Cryptonemia borealis Kylin, 1925:19

GULF OF CALIFORNIA DISTRIBUTION. WC: El Colorado, SON.

SYNTYPE LOCALITIES. Two locales (Kylin, 1925): Canoe Island and Peavine Pass (channel between Orcas Island and Blakely Island), Washington.

LECTOTYPE LOCALITY. Canoe Island (off SE of Shaw Island and NW end of Lopez Island), San Juan County, Washington, USA (Abbott and Hollenberg, 1976).

REMARKS. Gabrielson et al. (2004) noted difficulty in separating NE Pacific *Cryptonemia borealis*, *C. angustata*, and *C. obovata*. Should molecular systematic studies reveal them to be a single species, the oldest validly published name is *C. obovata*. Northern Gulf specimens referred to *Cryptonemia borealis* (Serviere-Zaragoza et al., 2012) should be compared to the type as well as northern Gulf specimens of *C. obovata*.

Cryptonemia decolorata W. R. Taylor, 1945:202

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Concepción, BCS. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. Dredged on coralline algal bottom 22 m depth; AHF sta. 970 (106°21'10"W, 21°25'40"N), off Isla María Magdalena, Islas Marías, Nayarit, Gulf of California, Mexico.

Cryptonemia guaymasensis (E. Y. Dawson) E. Y. Dawson, 1954b:263

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, to Guaymas, SON. WC: Playa El Coloradito, BC, to Bahía de San Lucas, BCS. IS: Isla Patos, ISG; Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. At 4–6 m depths on muddy bottom; outer harbor, Guaymas, Sonora, Gulf of California, Mexico.

Cryptonemia obovata J. Agardh, 1876:681

GULF OF CALIFORNIA DISTRIBUTION. EC: Canal de Infiernillo (channel between E coast of Isla Tiburón and El Desemboque de los Seris), SON. IS: Isla San Esteban, ISG.

TYPE LOCALITY. San Francisco Bay entrance (probably the westernmost entrance at Land's End or Fort Point or below the Presidio, in vicinity of Golden Gate Bridge), San Francisco, San Francisco County, northern California, USA.

Cryptonemia opuntiioides E. Y. Dawson, 1966b:59

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla La Ventana, BC; Isla Salsipuedes, ISG.

TYPE LOCALITY. At 12–18 m depths; Isla Salsipuedes, Islas de San Lorenzo, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Cryptonemia veleroae (E. Y. Dawson) E. Y. Dawson, 1954b:262

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON. WC: Rocas Consag, BC.

TYPE LOCALITY. On broken shell and mud at 12–20 m depths; outside Guaymas Harbor entrance, Guaymas, Sonora, Gulf of California, Mexico.

***Grateloupia* C. Agardh, 1822:221, nom. cons.**

Grateloupia catenata Yendo, 1920:9

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Arenosa, Puerto Peñasco, SON, to San Blas, NAY. IS: Isla Tiburón, ISG.

SYNTYPE LOCALITIES. Six locales in Japan (Yendo, 1920): five on Honshū Island—Tsugaru, [Cape] Tappi-zaki, Shimofuro, and Ajigasawa (all four Aomori Prefecture) and Fukuyama (Hiroshima Prefecture)—and one on Hokkaidō Island, Hakodate (Hokkaidō Prefecture).

LECTOTYPE LOCALITY. Ajigasawa, Aomori Prefecture, Honshū Island, Japan (Wang et al., 2000).

Grateloupia dactylifera E. Y. Dawson, 1954b:257

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON. IS: Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Ensenada de San Francisco (vicinity of Puerto San Carlos), Sonora, Gulf of California, Mexico.

Grateloupia filicina (Lamouroux) C. Agardh, 1822:223

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON, to Puerto Vallarta, JAL. WC: Campo Hawaii, BC, to Bahía de La Paz, BCS. IS: Isla Pelicano, SON; Isla Coronado, BC.

TYPE LOCALITY. Trieste, Gulf of Trieste, northeast Italy (De Clerck et al., 2005:392).

REMARKS. Most Gulf of California of “*Grateloupia filicina*,” including *G. filicina* var. *lomentaria* (Dawson, 1954b), were referred to *G. catenata* (Norris, 2014). Other Gulf records need to be reexamined to verify their identification.

Grateloupia hancockii E. Y. Dawson, 1944:280

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, SON, to Bahía de Banderas, JAL. IS: Isla Estanque and Isla Turner, ISG.

TYPE LOCALITY. “Rocky headland about 3 miles [~4.8 km] north of Kino [Bahía Kino (town)]” (Dawson, 1944:280), Bahía Kino (bay), Sonora, Gulf of California, Mexico.

Grateloupia howei Setchell et N. L. Gardner, 1924b:782

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Robinson, SON, to Puerto Vallarta, JAL. WC: Bahía de Los Ángeles, BC, to Roca El Solitario, BCS. IS: Isla Alcatraz, SON; Isla Patos, Isla Tiburón, Isla Turner, Isla San Esteban, and Isla San Pedro Mártir, ISG; Isla Coronado, BC.

TYPE LOCALITY. Cast ashore; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Grateloupia prolongata J. Agardh, 1847:10

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Lobos, SON, to Mazatlán, SIN. WC: Bahía de Los Ángeles, BC, to Bahía de La Paz, BCS. IS: Isla Angel de la Guarda, Isla Patos, Isla San Esteban, Isla Partida (Isla Cordonazo), and Isla Rasa, ISG; Isla San Pedro Nolasco, SON; Isla Coronado, BC; Isla San Francisco, BCS.

TYPE LOCALITY. “Pochetti” (Agardh, 1847:10); “Guatulco (Mexico)” (Kützing, 1849:730), probably Huatulco, Oaxaca; “probably on the coast of Oaxaca” (Dawson, 1954b); “Pochutla,” Oaxaca, Mexico (De Clerck et al.,

2005:392; Pochutla District is in the east of the Costa Region, Oaxaca).

***Grateloupia versicolor* (J. Agardh) J. Agardh, 1851:181**

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Arenosa, Puerto Peñasco, SON, to Puerto Vallarta, JAL. WC: Bahía San Francisquito, BC, to Cabeza Ballena, BCS. IS: Isla Pelicano, SON; Isla Turner and Isla San Esteban, ISG; Isla San Ildefonso, BCS; Isla Larga, NAY.

TYPE LOCALITY. “St. Agustín in littore Mexicanum Oceani Pacifici, Liebman” (Agardh, 1851); San Agustín, Bahías de Huatulco, Oaxaca, Mexico.

***Grateloupia violacea* (Setchell et N. L. Gardner) E. Y. Dawson, 1961a:200**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles to Bahía San Francisquito, BC. IS: Isla Patos, Bahía Agua Dulce, Isla Tiburón, Isla San Esteban, and Isla Partida (Isla Cordonazo), ISG.

TYPE LOCALITY. On upper sublittoral rocks; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Uncertain Record: *Grateloupia abbreviata* Kylin, 1941:10

REMARKS. Reported from Isla Pelicano in the upper Gulf by Mendoza-González and Mateo-Cid (1986) with a query. *Grateloupia abbreviata* was described from La Jolla, southern California, and is generally accepted as a synonym of *G. doryphora* (Montagne) M. Howe (Abbott and Hollenberg, 1976); its presence in the Gulf of California needs to be verified.

Uncertain Record: *Grateloupia doryphora* (Montagne) M. Howe, 1914:169

REMARKS. A common species on the Pacific coast of Baja California. The Gulf record from Cabo Corrientes, Jalisco (Mendoza-González and Mateo-Cid, 1992), needs to be verified. *Grateloupia doryphora* as identified in the NE Pacific appears to be confused with the Japanese *G. turuturu* Yamada (1941). In the Atlantic off the U.S. coast “*G. doryphora*” was found to be *G. turuturu* by Gavio and Fredericq (2002), who also noted that distribution of *G. doryphora* was probably restricted to waters off of Chile and Peru. On the Pacific coast of northern Baja California *G. turuturu* has been reported as an introduced species (Miller et al., 2011; L. Aguilar-Rosas, et al. 2014).

***Halymenia* C. Agardh, 1817:xix, nom. cons.**

***Halymenia actinophysa* M. Howe, 1911:509**

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Peñasco, Puerto Peñasco, to Ensenada de San Francisco, SON. WC: Playa El Coloradito, BC, to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, and Bahía Agua Dulce, Isla Tiburón, ISG; Isla La Ventana and Isla de Los Gemelos, BC; Bahía Salinas, Isla Carmen, Isla San José, and Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. La Paz, Baja California Sur, Gulf of California, Mexico.

***Halymenia bifida* E. Y. Dawson, 1954b:269**

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON. WC: Punta Los Frailes to Bahía de San Lucas, BCS.

TYPE LOCALITY. Rock and sand bottom, 8–15 m depths; Bahía Los Frailes adjoining Punta Los Frailes, Baja California Sur, Gulf of California, Mexico.

***Halymenia californica* G. M. Smith et Hollenberg, 1943:216**

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON. WC: Bahía de Loreto to Arrecife de Cabo Pulmo, BCS. IS: Isla San Esteban and Isla Tiburón, ISG; Isla Partida [sur], BCS.

TYPE LOCALITY. Moss Beach, San Mateo County, central California, USA.

***Halymenia megaspora* E. Y. Dawson, 1954b:272**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Los Frailes, BCS. IS: Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Rock-sand bottom, 8–15 m depths; south side of Punta Los Frailes, Bahía Los Frailes, Baja California Sur, Gulf of California, Mexico.

***Halymenia refugiensis* E. Y. Dawson, 1944:278**

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Dredged 22–44 m depths; Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. Dawson (1954b) and Abbott (1967) considered *H. refugiensis* conspecific with *H. actinophysa*. Apparently resurrecting the species but without comment, Littler and Littler (2010) reported it in Pacific Panama. Thus far, the northern Gulf *H. refugiensis* is known only from the type specimen, and its taxonomic status should be further investigated and molecularly tested (Norris, 2014).

Excluded Species: *Halymenia gardneri* (Kylin) P. G. Parkinson, 1980:12

REMARKS. Mistakenly recorded in the northern Gulf of California from Bahía de Los Ángeles, BC, by Pacheco-Ruiz et al. (2008).

***Prionitis* J. Agardh, 1851:185, nom. cons.**

***Prionitis abbreviata* Setchell et N. L. Gardner, 1924a:785**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía Topolobampo, SIN. WC: Campo Hawaii, BC, to Cabeza Ballena, BCS. IS: Isla San Jorge and Isla Alcatraz, SON; Puerto Refugio, Isla Ángel de la

Guarda, Isla Patos, Bahía Agua Dulce, Isla Tiburón, Isla Turner, Isla San Esteban, and Isla Rasa, ISG; Isla Coronado, BC; Isla Tortuga, Isla Cholla, Isla Carmen, and Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. On rocks; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Prionitis abbreviata var. *guaymasensis* (E. Y. Dawson) E. Y.

Dawson, 1959a:25

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG; Isla Alcatraz and Isla San Pedro Nolasco, SON.

TYPE LOCALITY. On rocks intertidal tide pools; Punta San Pedro (about 41 km north of Guaymas), Sonora, Gulf of California, Mexico.

Prionitis acroidalea (Setchell et N. L. Gardner) E. Y. Dawson, 1961a:424

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino to Guaymas, SON. WC: Bahía de La Paz, BCS. IS: Isla Alcatraz, SON; Isla Tiburón and Isla Turner, ISG; Isla Tortuga, BCS.

TYPE LOCALITY. On rock, upper sublittoral; Isla Tortuga (off Puerto Santa Rosalía), Baja California Sur, Gulf of California, Mexico.

Prionitis cornea (Okamura) E. Y. Dawson, 1958:71

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC, to Mulegé, BCS.

TYPE LOCALITY. Kazusa, Bōsō Peninsula, Chiba Prefecture, Honshū Island, Japan.

Prionitis delicatula (W. R. Taylor) E. Y. Dawson, 1961a:424

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON.

TYPE LOCALITY. On rocks; Bahía Sur (“South Bay”), Isla Cedros (“Isla Cerros”), off Pacific coast of Baja California, Mexico.

REMARKS. Dawson’s (1966a) upper Gulf specimens of *Prionitis delicatula* were noted to differ from those of Pacific Baja California (Norris, 2014:426). More Gulf specimens are needed to be confirm its identification.

Prionitis mexicana E. Y. Dawson, 1944:283

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL. WC: San José del Cabo to Cabeza Ballena, BCS.

TYPE LOCALITY. Middle littoral on rocky reef; San José del Cabo, Baja California, Gulf of California, Mexico.

Prionitis sternbergii (C. Agardh) J. Agardh, 1851:190

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON, to Mazatlán, SIN. IS: Isla San Jorge, SON; Isla Tortuga and Isla San Marcos, BCS.

TYPE LOCALITY. Uncertain. Note that Gabrielson (2008:96) gave two possible locales: Nootka Sound, Vancouver Island, British Columbia, Canada, or Monterey, California, USA.

REMARKS. Gabrielson (2008) stated *Prionitis sternbergii* was a temperate species distributed from British Columbia to northern Pacific coast of Baja California and noted it was not possible that *P. sternbergii* could have been collected at these previously cited locales: “in mari Australi” (Agardh, 1822; see also Silva, 1996); Acapulco, Guerrero, Mexico (Kyllin, 1941); and Punta St. Agustín, Oaxaca, Mexico (Dawson, 1954b). Gulf specimens referred to this species need to be reexamined to verify their identification.

Uncertain Record: *Prionitis australis* (J. Agardh) J. Agardh, 1851:188

REMARKS. Reported from Segundo Cerro Prieta, Bahía Kino, in the upper Gulf (Mendoza-González and Mateo-Cid, 1986), it has not been recently collected, and their specimen should be reexamined to verify its identity.

Norrissia Balakrishnan, 1980:284

Uncertain Record: *Norrissia setchellii* (Kyllin) Balakrishnan, 1980:284

REMARKS. *Norrissia setchellii* was reported from Segundo Cerro Prieta, Bahía Kino, by Mendoza-González and Mateo-Cid (1986, as “*Grateloupia setchellii*”). Until upper Gulf specimens can be reexamined, the presence of *Norrissia* Balakrishnan remains unconfirmed.

Pachymenia J. Agardh, 1876:145

Uncertain Record: *Pachymenia saxicola* W. R. Taylor, 1945:207

REMARKS. In recording “*Pachymenia saxicola*” from Punta de Mita, Nayarit, Mateo-Cid and Mendoza-González (1992) queried its identification. Further studies and more collections are need to verify its presence in the Gulf of California.

TSENGIACEAE G. W. SAUNDERS ET KRAFT, 2002:1259

Tsengia K.-C. Fan et Y.-P. Fan, 1962:191

Tsengia abbottiana (J. N. Norris et Bucher) J. N. Norris et Bucher, in Bucher and Norris, 2014b:426

GULF OF CALIFORNIA DISTRIBUTION. IS: Canal Mejía, channel off Isla Mejía, ISG.

TYPE LOCALITY. On rock at 23 m depth; in narrow, deep channel off SE side of Isla Mejía (29°33′07″N, 113°35′19″W) on the NW side of Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

NEMASTOMATALES KYLIN, 1925:39**NEMASTOMATACEAE F. SCHMITZ, 1892:22*****Predaea* G. De Toni, 1936:[5]**

Predaea japonica T. Yoshida, 1980:69

GULF OF CALIFORNIA DISTRIBUTION. WC: Puerto Calamajué, BCS. IS: Isla Ángel de la Guarda and Isla Estanque, ISG; Islas de Los Gemelos, BC.

TYPE LOCALITY. Mitsuse, near Cape Nomo, Nagasaki Prefecture, Kyūshū Island, Japan.

Predaea masonii (Setchell et N. L. Gardner) G. De Toni, 1936:[5]

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto to Bahía de La Paz, BCS. IS: Isla Carmen and Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. On a crustose coralline; dredged, off Isla Clarión, *Islas Revillagigedo*, west of Colima, Mexico.

SCHIZYMENIACEAE MASUDA ET GUIRY, 1995:66***Platoma* Schousboe ex F. Schmitz, 1894:627**

Platoma? fanii E. Y. Dawson, 1961a:197

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Esteban, ISG.

TYPE LOCALITY. Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. The type of *Platoma fanii* needs to be molecularly tested to verify its generic placement (Bucher and Norris, 2014c).

***Schizymenia* J. Agardh, 1851:158**

Schizymenia pacifica (Kylín) Kylin, 1932:10

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Willard to Bahía de Las Ánimas, BC. IS: Puerto Refugio, Isla Ángel de la Guarda, and Bahía Agua Dulce, Isla Tiburón, ISG.

SYNTYPE LOCALITIES. Five locales listed by Kylin (1925:21, as *Turnerella pacifica*): two on San Juan Island—on pilings of Friday Harbor's docks, Friday Harbor, and south of False Bay—and three on other islands, Brown Island, Turn Island (Turn Rock), and Canoe Island.

LECTOTYPE LOCALITY. Friday Harbor, Washington (Smith, 1944); San Juan Island (Dawson, 1961a); on intertidal rocks, near pilings of Friday Harbor dock, Friday Harbor, San Juan Island, San Juan Islands, San Juan County, Washington, USA.

***Haematocelis* J. Agardh, 1851:492**

REMARKS. The genus *Haematocelis* has been treated as a synonym of *Schizymenia* (e.g., Guiry and Guiry, 2015) on

the basis of culture studies of Ardré (1977) that showed the genotype *H. rubens* J. Agardh to be the sporophyte phase of *Schizymenia dubyi* (Chauvin ex Duby) J. Agardh.

Haematocelis zonalis E. Y. Dawson et Neushul, 1966:176

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Agua Verde, BCS.

TYPE LOCALITY. On living mollusk shell, 28–30 m depth; Anacapa Island, Ventura County, California Channel Islands (Channel Islands National Marine Sanctuary), southern California, USA.

REMARKS. Culture and genetic studies are needed to determine if tetrasporophytic specimens of Gulf *H. zonalis* are involved in the life history of Gulf *Schizymenia*, if they could possibly be a different species, or if they are the tetrasporophyte/*Haematocelis*-phase of another genus.

PLOCAMIALES G. W. SAUNDERS ET KRAFT, 1994:1260**PLOCAMIACEAE KÜTZING, 1843:442, 449,
NOM. CONS.*****Plocamium* J. V. Lamouroux,
1813:137, nom. cons.**

Plocamium katinæ J. N. Norris, 2014:437

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to El Desemboque de los Seris, SON. WC: Cabeza Ballena, BCS.

TYPE LOCALITY. Mid intertidal; Cumpleaños Tide Pool (on tidal platform), Playa Estación, Puerto Peñasco, Sonora, Gulf of California, Mexico.

Uncertain Record: *Plocamium violaceum* Farlow, 1877:240

REMARKS. Specimens from Puerto Peñasco, SON, referred to "*P. violaceum*" (Mendoza-González and Mateo-Cid, 1986) are probably not this species and should be reexamined.

Excluded Species: *Plocamium pacificum* Kylin, 1925:42

REMARKS. Only the Gulf of California specimens referred to *Plocamium pacificum*, *P. coccineum*, and *P. coccineum* var. *pacificum* sensu Dawson (1961a, 1966a; US Alg. Coll.) were identified to be *P. katinæ* (Norris, 2014). The presence of *P. pacificum* in the upper Gulf remains doubtful.

SEBDENIALES WITHALL ET G. W. SAUNDERS, 2007:388**SEBDENIACEAE KYLIN, 1932:12*****Sebdenia* (J. Agardh) Berthold, 1882:530**

Sebdenia flabellata (J. Agardh) P. G. Parkinson, 1980:12

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Punta de Mita, NAY. WC: Bahía de Los Ángeles, BC, to Caleta Santa María, BCS. IS: Isla Coronado, Isla La Ventana, and Islas de Los Gemelos, BC; Isla Mejía, Puerto

Refugio, Isla Ángel de la Guarda, Isla Estanque, and Isla San Esteban, ISG; Isla María Magdalena, NAY.

TYPE LOCALITY. Guadeloupe, French West Indies, Lesser Antilles, Caribbean Sea.

RHODYMENIALES NÄGELI, 1847:226, 239, 254

CHAMPIACEAE KÜTZING, 1843:438

***Champia* Desvaux, 1809:245**

Champia caespitosa E. Y. Dawson, 1944:311

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla Estanque, ISG.

TYPE LOCALITY. on articulated corallines, mid-intertidal rocky shore; Isla Estanque (Pond Island; off SE end of Isla Ángel de la Guarda), Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Champia disticha E. Y. Dawson, 1944:310

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla San Esteban, ISG.

TYPE LOCALITY. Epiphytic on *Laurencia*, mid intertidal; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Champia cf. *parvula* (C. Agardh) Harvey, 1853:76

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal, SON, to Punta de Mita, NAY. WC: Playa Santa Teresa, BC, to Cabeza Ballena, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Patos, Isla Turner, and Isla San Esteban, ISG; Isla Coronado, BC; Isla San Juan Nepomuceno and Isla Monserrate, BCS.

TYPE LOCALITY. “Ad Gades” (Agardh, 1824:207); Cádiz, Iberian Peninsula, southwestern Spain.

REMARKS. Widely reported in subtropical to tropical seas, its presence in the Gulf of California needs verification.

***Gastroclonium* Kützinger, 1843:441, nom. cons.**

Gastroclonium compressum (Hollenberg) C. F. Chang et B.-M. Xia, 1978:209, 213

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON. WC: Arrecife de Cabo Pulmo, BCS. IS: Isla Estanque, ISG.

TYPE LOCALITY. On intertidal rock; ~0.8 km east of Corona del Mar, Orange County, southern California, USA.

Gastroclonium pacificum (E. Y. Dawson) C. F. Chang et B.-M. Xia, 1978:209

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, to Bahía Bacochibampo, SON. WC: Bahía de Los Ángeles, BC; Punta Los Frailes (?), BCS. IS: Bahía Agua Dulce, Isla Tiburón, Isla Estanque, Isla Patos, and Isla San Esteban, ISG.

TYPE LOCALITY. Cobble shore; south side of Bahía Bacochibampo, near Guaymas, Sonora, Gulf of California, Mexico.

Gastroclonium parvum (Hollenberg) C. F. Chang et B.-M. Xia, 1978:209

GULF OF CALIFORNIA DISTRIBUTION. EC: Roca Rojo, Bahía Kino, SON. WC: Puertecitos, BC.

TYPE LOCALITY. On large intertidal rock; Redondo Beach, Los Angeles County, southern California, USA.

FAUCHEACEAE I. M. STRACHAN, G. W. SAUNDERS ET KRAFT, IN SAUNDERS ET AL., 1999:36

***Gloiocladia* J. Agardh, 1842:87**

Gloiocladia hoshawii (E. Y. Dawson) J. N. Norris, 2014:450

GULF OF CALIFORNIA DISTRIBUTION. IS: Islas de Los Gemelos, BC; Isla San Pedro Nolasco, SON.

TYPE LOCALITY. Subtidal, ~15 m depth; Isla San Pedro Nolasco (“Seal Island”), Sonora, Gulf of California, Mexico.

Gloiocladia mollis (M. Howe) J. N. Norris, 2014:450

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS. IS: Isla San Esteban, ISG.

TYPE LOCALITY. “Apparently dredged”; vicinity of La Paz, Baja California Sur, Gulf of California, Mexico (Dawson, 1963a:441).

Gloiocladia sefferi (M. Howe) J. N. Norris, 2014:450

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Loreto to Bahía de La Paz, BCS. IS: Isla Estanque, Isla San Esteban, and Isla San Lorenzo, ISG; Isla Coronado, BC.

TYPE LOCALITY. “Apparently dredged”; vicinity of La Paz, Baja California Sur, Gulf of California, Mexico (Dawson, 1963a:441).

***Gloioderma* J. Agardh, 1851:243**

Gloioderma conjuncta (Setchell et N. L. Gardner) E. Y. Dawson, 1959a:26

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Ensenada Bacochibampo, SON. WC: Bahía de Los Ángeles, BC, to La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Bahía Agua Dulce, Isla Tiburón, Isla San Esteban, and Isla San Pedro Mártir, ISG; Isla Tortuga, BCS.

TYPE LOCALITY. Floating and entangled with other algae; Isla San Esteban, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. Although some have treated it as *Gloiocladia conjunctata* (Setchell et N. L. Gardner) R. E. Norris (1991), Rodríguez-Prieto et al. (2007) and Dalen and Saunders (2007) concluded that the genus *Gloioderma* should be reinstated (see also Norris, 2014:452).

LOMENTARIACEAE J. AGARDH, 1876:606, 630**LOMENTARIACEAE TRIBE CERATODICTYEA F. SCHMITZ
ET HAUPTFLEISCH, 1897A:384, 388*****Ceratodictyon* Zanardini, 1878:36**

Ceratodictyon tenue (Setchell et N. L. Gardner) J. N. Norris,
2014:455

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada San Francisco, SON, to Puerto Vallarta, JAL. WC: Santa Rosalía to Cabeza Ballena, BCS. IS: Isla Cholla, Isla San Francisco, and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. Cast ashore; Santa Rosalía, Baja California Sur, Gulf of California, Mexico (Dawson, 1953).

Ceratodictyon variable (Greville ex J. Agardh) R. E. Norris,
1987:243

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Puerto Vallarta, JAL. WC: Puertecitos, BC, to Cabeza Ballena, BCS. IS: Isla San Pedro Nolasco, SON; Isla Tortuga, BCS.

TYPE LOCALITY. Chennai (formerly Madras), Tamil Nadu, Bay of Bengal, southeastern India.

**LOMENTARIACEAE TRIBE LOMENTARIEAE
ENDLICHER, 1843:42*****Fushitsunagia* Filloramo
et G. W. Saunders, 2016:348**

Fushitsunagia catenata (Harvey) Filloramo et G. W. Saunders,
2016:348

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Cabo Arco, SON. WC: Playa El Coloradito, BC, to Bahía de La Paz, BCS. IS: Isla San Jorge, SON; Isla Ángel de la Guarda, Isla Estanque, Isla Patos, Bahía Agua Dulce, Isla Tiburón, Isla Turner, Isla San Esteban, and Isla Partida (Isla Cordonazo), ISG; Isla Coronado, BC; Isla Tortuga and Isla San Marcos, BCS.

TYPE LOCALITY. Shimoda (near southern end of Izu Peninsula), Shizuoka Prefecture, Honshū Island, Japan (Harvey, 1860; Dawson, 1959b).

REMARKS. Previously reported in the Gulf of California as *Lomentaria catenata* Harvey (1857), Filloramo and Saunders (2016:344, fig. 1) found the western Pacific *L. catenata* to be allied with species of *Ceratodictyon* and described it as a new genus *Fushitsunagia*.

***Lomentaria* Lyngbye, 1819:101**

Lomentaria? hakodatensis Yendo, 1920:6

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Libertad, SON, to Miramar, NAY. WC: Bahía Concepción

to Cabo Pulmo, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, and Isla Tiburón, ISG; Isla Espíritu Santo, BCS.

SYNTYPE LOCALITIES. Seven locales (Yendo, 1920:6): “Hakodate, Otaru, insulam Rishiri, prov. Hidaka, prov. Inaba, prov. Bōshū, [and] prov. Owari.”

LECTOTYPE LOCALITY. Hakodate, Hokkaidō Prefecture (Oshima Subprefecture), Hokkaidō Island, Japan (Lee, 1978).

REMARKS. Filloramo and Saunders (2016: fig. 1) found the western Pacific *Lomentaria hakodatensis* did not group with the *Lomentaria* lineage that included the generitype but resolved to be a sister to *Binghamiopsis* I. K. Lee, J. A. West et Hommersand (1988) and noted its generic placement could not be determined at that time.

RHODYMENIACEAE HARVEY, 1846:VIII***Botryocladia* (J. Agardh) Kylin, 1931:17**

Botryocladia datilensis (E. Y. Dawson) J. N. Norris, 2014:462

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON. IS: Isla Turner, ISG; Isla La Ventana, BC.

TYPE LOCALITY. On lower intertidal rocks; Isla Turner (El Dátil), off southeast end of Isla Tiburón, Sonora, Islas Grandes (Islas de la Cintura), Sonora, Gulf of California, Mexico.

Botryocladia guaymasensis E. Y. Dawson, 1963a:451

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, to Ensenada de San Francisco, SON.

TYPE LOCALITY. Beach drift; Bahía San Francisco, within eastern shore of Bahía San Carlos (~11 km northwest of Guaymas), Sonora, Gulf of California, Mexico.

Botryocladia uvarioides E. Y. Dawson, 1944:306

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Puerto Vallarta, JAL. WC: Puertecitos, BC, to Bahía San Lucas, BCS. IS: Isla Ángel de la Guarda and Isla Turner, ISG; Isla Coronado and Isla La Ventana, BC; Isla San Pedro Nolasco, SON; Isla San Ildefonso, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. Dredged 40 m depth; off San José del Cabo, Baja California Sur, Gulf of California, Mexico.

Uncertain Record: *Botryocladia pseudodichotoma* (Farlow)
Kylin, 1931:18

REMARKS. Recorded from estero Punta Perla, Isla Tiburón (Mendoza-González and Mateo-Cid, 1986), the species needs to be reexamined to verify its presence in the Gulf.

Excluded Species: *Botryocladia pyriformis* (Børgesen) Kylin,
1931:18

REMARKS. Recorded from Puerto Refugio, Isla Ángel de la Guarda (Norris, 1973), when reexamined, the specimens were found to be *B. uvarioides* (Norris, 2014:463).

***Irvinea* Guiry, in Saunders et al., 1999:36**

Irvinea hancockii (E. Y. Dawson) R. Wilkes, L. McIvor et Guiry, 2006:488

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC, to Punta Perico, Bahía Los Frailes, BCS. IS: Isla Mejía and Isla Estanque, ISG; Bahía Salinas, Isla Carmen, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Dredged 20–40 m depths; Bahía Agua Verde, Baja California Sur, Gulf of California, Mexico.

***Rhodymenia* Greville, 1830:xlvi, 84,
nom. cons.**

Rhodymenia arborescens E. Y. Dawson, 1941:149

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Isabel, NAY.

TYPE LOCALITY. Cast ashore on a barnacle; Laguna Beach, Orange County, southern California, USA.

REMARKS. The southern Gulf record originally reported as “*Rhodymenia lobata*” (Dawson, 1944) was later re-identified to be *R. arborescens* (Dawson, 1963a).

Rhodymenia californica Kylin, 1931:21

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Arena to Cabeza Ballena, BCS. IS: Isla María Magdalena (identification queried by Dawson, 1963a), NAY.

TYPE LOCALITY. Near “Biological Station” (Kylin, 1931:31); low intertidal, Mussel Point (Cabrillo Point), Hopkins Marine Station of Stanford University, Pacific Grove, Monterey County, central California, USA (Smith, 1944).

Rhodymenia dawsonii W. R. Taylor, 1945:251

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Agua Verde, BCS. IS: Isla San Francisco and Isla Cholla, BCS.

TYPE LOCALITY. Dredged; off Punta Hughes, about 5.6 km southeast of Cabo San Lázaro, Pacific coast of Baja California Sur, Mexico.

Rhodymenia divaricata E. Y. Dawson, 1941:141

GULF OF CALIFORNIA DISTRIBUTION. EC: El Desemboque de los Seris to Bahía Guaymas, SON. WC: Bahía Coyote to Puerto Escondido, BCS. IS: Isla Mejía and Puerto Refugio, Isla Ángel de la Guarda, ISG; Canal de San Lorenzo, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Dredged 3.7–5.5 m depths on mud bottom; Bahía Guaymas, Sonora, Gulf of California, Mexico.

Rhodymenia hancockii E. Y. Dawson, 1941:146

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Hermosa, Puerto Peñasco, to El Desemboque de los Seris, SON. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG; Isla Coronado, BC.

TYPE LOCALITY. Dredged on shell bottom, 42 m depth on shell bottom; west side of Puerto Refugio, Isla Ángel de

la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Rhodymenia huertae J. N. Norris, 2014:469

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Mejía, Puerto Refugio, Isla Ángel de la Guarda, and Isla Tiburón, ISG.

TYPE LOCALITY. Dredged 10.9–20.1 m depths; Isla Mejía (off northwest side of Puerto Refugio, Isla Ángel de la Guarda), Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

SYNOPSIS OF BROWN ALGAL TAXA

The synoptic list below of Phaeophyceae of the Gulf of California is of the phylum, classes, orders, families, and genera of brown algae presented in the accounts following this list.

STRAMENOPILES**OCHROPHYTA****PHAEOPHYCEAE****ISHIGEOPHYCIDAE****Ishigeales****Ishigeaceae**

Ishige Yendo

DICTYOTOPHYCIDAE**Dictyotales****Dictyotaceae****Dictyotaceae tribe Dictyoteae**

Canistrocarpus De Paula et

De Clerck

Dictyota J. V. Lamouroux

Rugulopteryx De Clerck et

Coppejans

Dictyopteris J. V. Lamouroux

Lobophora J. Agardh

Padina Adanson

Spatoglossum Kützinger

Sphacelariales**Sphacelariaceae**

Sphacelaria Lyngbye

Lithodermataceae

Pseudolithoderma Svedelius

FUCOPHYCIDAE**Desmarestiales****Desmarestiaceae**

Desmarestia J. V. Lamouroux

Ectocarpales**Acinetosporaceae**

Feldmannia Hamel

Hincksia J. E. Gray

Pylaiellaceae

Pylaiella Bory de Saint-Vincent

Chordariaceae

Compsonema Kuckuck
Haplogloia Levring
Hecatonema Sauvageau
Myriactula Kuntze
Nemacystus Derbès et Solier
Streblonema Derbès et Solier

Leathesiaceae

Leathesia S. F. Gray

Ectocarpaceae

Ectocarpus Lyngbye

Chnoosporaceae

Chnoospora J. Agardh

Scytosiphonaceae

Colpomenia (Endlicher)
 Derbès et Solier
Hapterophycus Setchell et
 N. L. Gardner
Hydroclathrus Bory de Saint-
 Vincent
Rosenvingea Børgesen
Petalonia Derbès et Solier
Stragularia Strömfelt

Ralfsiales

Hapalospongiaceae

Hapalospongidion
 De A. Saunders

Neoralfsiaceae

Neoralfsia P.-E. Lim et
 H. Kawai

Ralfsiaceae

Endoplura Hollenberg
Ralfsia Berkeley

Scytothamnales

Asteronemataceae

Asteronema Delépine et Asensi

Sporochnales

Sporochnaceae

Sporochnus C. Agardh

Tilopteridales

Cutleriaceae

Cutleria Greville

Fucales

Sargassaceae

Sargassum C. Agardh

EXCLUDED PHAEOPHYCEAE (Laminariales)

STRAMENOPILES D. J. PATTERSON, 1989:372

**OCHROPHYTA CAVALIER-SMITH, IN CAVALIER-SMITH
 AND CHAO, 1996:508**

REMARKS. Heterokontophyta Hoek (1978) and Heterokontophyta Moestrup (1992) are also used as the name for

the phylum; however, both have been noted to be invalid (Guiry and Guiry, 2017). Ochrophyta Cavalier-Smith (in Cavalier-Smith and Chao, 1996; Cavalier-Smith, 1998) is used herein.

PHAEOPHYCEAE KJELLMAN, 1891:196

**ISHIGEOPHYCIDAE SILBERFELD, F. ROUSSEAU
 ET REVIERS, 2014:124, 140**

**ISHIGEALAE G. Y. CHO ET S. M. BOO,
 IN G. Y. CHO ET AL., 2004:934**

ISHIGEACEAE OKAMURA, IN SEGAWA, 1935:65

***Ishige* Yendo, 1907:154**

Ishige sinicola (Setchell et N. L. Gardner) Chihara, 1969:3

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Sistema Lagunar Navachiste–San Ignacio, Macapule, SIN. WC: Playa El Coloradito, BC, to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Isla Tiburón, Isla Partida, and Isla San Esteban, ISG.

TYPE LOCALITY. On rocks; Isla Partida [norte] (Isla Cordonazo), Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

**DICTYOTOPHYCIDAE SILBERFELD, F. ROUSSEAU
 ET REVIERS, 2014:125, 140**

**DICTYOTALES BORY DE SAINT-VINCENT,
 1828:142**

**DICTYOTACEAE J. V. LAMOUROUX
 EX DUMORTIER, 1822:72, 101**

**DICTYOTACEAE TRIBE DICTYOTEAE GREVILLE,
 1833:252, 275**

REMARKS. Although the infrafamilial tribes Dictyoteae and Zonarieae O. C. Schmidt (1938) were divided on morphological characters, phylogenetic analyses did not support their separation, and Bittner et al. (2008) concluded they should be merged (see also Silberfeld et al. (2014).

***Canistrocarpus* De Paula et De Clerck,
 in De Clerck et al., 2006:1285**

Canistrocarpus cervicornis (Kützting) De Paula et De Clerck, in De Clerck et al., 2006:1285

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Concepción to Punta Arena, BCS.

TYPE LOCALITY. Key West, Florida Keys, Monroe County, Florida, USA.

***Dictyota* J. V. Lamouroux, 1809a:38,
nom. cons.***Dictyota bartayresiana* J. V. Lamouroux, 1809a:43

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Bahía de Banderas, JAL. WC: Faro de San Felipe, BC, to Punta Los Frailes, BCS. IS: Isla San José, BCS.

TYPE LOCALITY. Antilles, West Indies [archipelago in Caribbean Sea composed of the islands of the Greater Antilles and the Lesser Antilles].

Dictyota conrescens W. R. Taylor, 1945:89

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to El Colorado, SON. WC: Bahía de La Paz to Cabo Pulmo, BCS.

TYPE LOCALITY. Punta Hughes (vicinity of Bahía Magdalena), about 5.6 km southeast of Cabo San Lázaro, Pacific coast of Baja California Sur, Mexico.

Dictyota coriacea (Holmes) Hwang, H.-S. Kim et W. J. Lee, 2004:189

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Punta La Gringa, Bahía de Los Ángeles, BC, to Cabo San Lucas, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Tiburón, Isla Turner, Isla Partida (Isla Cordonazo), and Isla San Esteban, ISG; Isla San Marcos, Isla San Ildefonso, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. "Neighborhood of Tokio [Tokyo]" (Holmes, 1896:149); Enoura, Sagami Bay, Kanagawa Prefecture, Honshū Island, Japan.

Dictyota crenulata J. Agardh, 1847:7

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL. WC: Los Pocitos (vic. La Concha), SW Bahía Concepción, to Cabo San Lucas, BCS. IS: Isla San Diego and Isla Espíritu Santo, BCS.

TYPE LOCALITY. "St. Augustin, Stilla Oceanen" (Agardh, 1847:7); San Agustín, Oaxaca, Mexico.

Dictyota dichotoma var. *intricata* (C. Agardh) Greville, 1830:58

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Bahía Kino, SON. WC: Faro de San Felipe, BC, to Cabo San Lucas, BCS. IS: Isla San Pedro Nolasco, SON; Isla Tortuga, Isla San Diego, Isla San Ildefonso, Isla San Juan Nepomuceno, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Cádiz, Bahía de Cádiz, Andalusia region, Cádiz Province, southwestern Spain.

Dictyota flabellata (Collins) Setchell et N. L. Gardner, 1924b:12

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal to Guaymas, SON. WC: Faro de San Felipe, BC, to Arrecife de Cabo Pulmo, BCS. IS: Isla Tiburón and Isla Turner, ISG; Isla San Pedro Nolasco, SON; Isla Tortuga, Isla San Marcos, Isla San Juan Nepomuceno, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. La Jolla, San Diego County, southern California, USA.

Dictyota pinnata (E. Y. Dawson) Hörnig, Schnetter et Prud'homme van Reine, 1993:170

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Bahía de Banderas, JAL. WC: Punta Arena to Cabo Pulmo, BCS.

TYPE LOCALITY. Miramar, Nayarit, Gulf of California, Mexico.

Dictyota stolonifera E. Y. Dawson, 1962b:392

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: San José del Cabo to Cabo San Lucas, BCS.

TYPE LOCALITY. Intertidal; volcanic reef, Masachapa, Managua (department), Pacific coast of Nicaragua.

Dictyota vivesii M. Howe, 1911:497

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Bahía San Francisco, SON. WC: Playa El Coloradito, BC, to Cabo San Lucas, BCS. IS: Isla Tiburón, ISG; Isla Partida and Isla Espíritu Santo, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. La Paz, Baja California Sur, Gulf of California, Mexico.

Uncertain Record: *Dictyota binghamiae* J. Agardh, 1894:72REMARKS. Described from southern California (Abbott and Hollenberg, 1976, as *Pachydictyon binghamiae* (J. Agardh) E. Y. Dawson), it was recorded in the southern Gulf from Cabo San Lucas (Martínez-Lozano et al., 1991). More collections are necessary to verify its presence in the Gulf of California.Uncertain Record: *Dictyota dichotoma* (Hudson) J. V. Lamouroux, 1809a:42REMARKS. Gulf specimens referred to as "*Dictyota dichotoma*" need to be reinvestigated (Pedroche et al., 2008; Norris, 2010). *Dictyota dichotoma* sensu stricto is probably restricted to the NE Atlantic and Mediterranean Sea (De Clerck, 2003). Norris (2010) referred some Gulf specimens previously identified as "*D. dichotoma*" to *D. vivesii*.Uncertain Record: *Dictyota volubilis* Kützinger, 1849:445REMARKS. "*Dictyota volubilis*" as identified in the Gulf also needs to be reinvestigated (Pedroche et al., 2008; Norris, 2010). De Clerck (2003) considered *D. volubilis* to be conspecific with *D. dichotoma*.***Rugulopteryx* De Clerck et Coppejans,
in De Clerck et al., 2006:1286***Rugulopteryx okamurae* (E. Y. Dawson) I.-K. Hwang, W. J. Lee et H.-S. Kim, in Hwang et al., 2009:5

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Cabeza Ballena to Bahía de San Lucas, BCS.

TYPE LOCALITY. Enoshima [island], Kanagawa Prefecture, offshore in Sagami Bay, Honshū Island, Japan.

***Dictyopteris* J. V. Lamouroux, 1809b:332**

Dictyopteris delicatula J. V. Lamouroux, 1809b:332

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL. WC: Bahía de La Paz to Arrecife de Cabo Pulmo, BCS.

TYPE LOCALITY. Antilles, West Indies [archipelago in Caribbean Sea composed of the islands of the Greater Antilles and the Lesser Antilles].

Dictyopteris repens (Okamura) Borgesen, 1924a:265

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Cholla, BCS.

TYPE LOCALITY. Chuuk (Turk) Islands, part of the Caroline Islands group, Federated States of Micronesia.

Dictyopteris undulata Holmes, 1896:251

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Peñasco to Bahía Tepoca, SON. WC: Bahía de Los Ángeles to Cabo San Lucas, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, and Isla Partida (Isla Cordonazo), ISG; Isla Conchas and Isla San Pedro Nolasco, SON; Isla Tortuga, Isla Partida, and Isla San Ildefonso, BCS.

TYPE LOCALITY. Misaki, Kanagawa Prefecture, Honshū Island, central Japan.

Uncertain Record: *Dictyopteris johnstonei* N. L. Gardner, 1940:270

REMARKS. *Dictyopteris johnstonei* has been recorded as “possibly into the Gulf of California” (Abbott and Hollenberg, 1976:212). Its taxonomic status is problematic, and the southern California *D. johnstonei* (type locality: Santa Cruz Island, California Channel Islands [Channel Islands National Marine Sanctuary]) needs to be reinvestigated (Silva, 1957). Until the phylogenetic relationships of Gulf specimens referable to “*D. johnstonei*” are comparatively tested with type specimens of *D. johnstonei*, Japanese *D. undulata* Holmes, and California *D. zonarioides* Farlow, its taxonomic status and presence in the Gulf remain uncertain (Norris, 2014).

***Lobophora* J. Agardh, 1894:21**

Lobophora variegata? (J. V. Lamouroux) Womersley ex E. C. Oliveira, 1977:217

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Bahía de Banderas, JAL. WC: Punta Arena to Cabo Pulmo, BCS. IS: Isla San Diego, Isla Partida, Isla Espíritu Santo, and Isla San Francisco, BCS.

TYPE LOCALITY. Antilles, West Indies [archipelago in Caribbean Sea composed of the islands of the Greater Antilles and the Lesser Antilles].

REMARKS. Recent molecular systematic studies of specimens assumed to be a broadly defined “*Lobophora variegata*” (Sun et al., 2012; Vieira et al., 2014, 2016; Schultz et al., 2015) have revealed numerous new species that were previously misidentified or unrecognized. The species *L. variegata* is likely restricted to the Caribbean Sea (Schultz et al., 2015; Vieira et al., 2016). Vieira et al. (2016, 2017) estimated there are more than 100 species of *Lobophora*, of which only 21–30 species are currently recognized. The Gulf of California specimens referred to “*L. variegata*” should be critically studied and molecularly compared to determine their correct identity and if there is possibly more than one species in the Gulf.

***Padina* Adanson, 1763:13, 586, nom. cons.**

Padina arborescens Holmes, 1896:251

GULF OF CALIFORNIA DISTRIBUTION. WC: El Huerfanito to Bahía de Los Ángeles, BC; Santa Rosalía, BCS. IS: Isla San Pedro Mártir, ISG.

TYPE LOCALITY. Enoshima [island], Fujisawa, Kanagawa Prefecture, offshore in Sagami Bay, Honshū Island, Japan.

REMARKS. Molecular data of Díaz-Martínez et al. (2016:679) indicated their Gulf specimens were probably this species.

Padina caulescens Thivy, in Taylor, 1945:99

GULF OF CALIFORNIA DISTRIBUTION. WC: Playa La Concha, Ensenada de La Paz, BCS. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. Isla María Magdalena, Islas Mariás, Nayarit, Gulf of California, Mexico.

REMARKS. *Padina caulescens* has been treated as a synonym of *P. durvillei* by Riosmena-Rodríguez et al. (2009).

Padina concrescens Thivy, in Taylor, 1945:102

GULF OF CALIFORNIA DISTRIBUTION. EC: Golfo de Santa Clara, SON, to Bahía de Banderas, NAY/JAL. WC: Bahía de los Muertos to Cabo San Lucas, BCS. IS: Isla Espíritu Santo, BCS.

TYPE LOCALITY. Anchorage, Black Beach, Isla Floreana (Charles Island; Isla Santa María), Galápagos Islands, Ecuador.

REMARKS. Díaz-Martínez et al. (2016) noted that *P. concrescens* may possibly be a procumbent growth form of *P. durvillei*, but type material of the Galápagos *P. concrescens* must be analyzed to resolve their relationship and taxonomic status.

Padina crispata Thivy, in Taylor, 1945:100

GULF OF CALIFORNIA DISTRIBUTION. EC: Estero Tastiota, SON, to Puerto Vallarta, JAL. WC: Playa El Coloradito, BC, to San José del Cabo, BCS. IS: Isla Monserrat and Isla Partida, BCS; Isla María Madre, NAY.

TYPE LOCALITY. Golfo Dulce, Puntarenas Province, Pacific coast of Costa Rica.

REMARKS. Although Riosmena-Rodríguez et al. (2009) treated *Padina crispata* as a synonym of *P. mexicana*, molecular analysis by Díaz-Martínez et al. (2016) supported it being a distinct species from *P. mexicana*.

***Padina durvillei* Bory de Saint-Vincent, 1827a:591**

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal, SON, to Bahía de Banderas, JAL. WC: Playa El Colorado, BC, to Cabo San Lucas, BCS. IS: Isla San Jorge, Isla Alcatraz, and Isla San Pedro Nolasco, SON; Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Patos, Isla Tiburón, Isla Turner, Isla Partida (Isla Cordonazo), Isla San Esteban, and Isla San Pedro Mártir, ISG; Isla Tortuga, Isla San Marcos, Isla San Ildefonso, Isla Cholla, Isla Danzante, and Isla San Juan Nepomuceno, BCS; Isla de Venados and Isla de la Piedra, SIN; Isla Larga, Isla María Madre, and Isla María Magdalena, NAY.

TYPE LOCALITY. Concepción, Bío Bío Region, Province Concepción, Chile (Bory de Saint-Vincent, 1827a).

REMARKS. Dawson et al. (1964:22) suspected the type locality of *P. durvillei* was incorrect, noting “from the present known distribution of the species it is questionable whether the alga was taken from such cool southern waters.” However, Concepción, Chile, is generally accepted as the type locality (Ramírez and Santelices, 1991; Guiry and Guiry, 2014).

***Padina glabra* Gaillard, 1966:226**

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Espíritu Santo, BCS.

TYPE LOCALITY. Punta de Fann, Dakar, Senegal.

REMARKS. Molecular analyses by Díaz-Martínez et al. (2016:679) indicated their Gulf specimen was possibly this species.

***Padina mexicana* E. Y. Dawson, 1944:231**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Punta de Mita, NAY. WC: Playa Santa Teresa, BC, to Arrecife de Cabo Pulmo, BCS. IS: Isla Tiburón and Isla Turner, ISG; Isla San Diego, Isla San Juan Nepomuceno, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Reef; Isla Turner, off southeast end of Isla Tiburón, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

***Padina mexicana* var. *erecta* Ávila-Ortiz, 2003:70**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Puerto Vallarta, JAL. WC: Bahía Concepción to Punta Arena, BCS.

TYPE LOCALITY. Puerto Vicente Guerrero, Guerrero, Mexico.

REMARKS. Separated primarily by their different thallus habits; that is, *P. mexicana* var. *erecta* has an erect habit versus a procumbent habit of *P. mexicana* var. *mexicana*. It was treated as a synonym of *P. mexicana* by Riosmena-Rodríguez et al. (2009). Subsequently, Díaz-Martínez et al. (2016) found

no genetic differences between the two varieties and recognized them as morphological varieties.

***Padina ramonribae* Ávila-Ortiz, Pedroche et Díaz-Martínez, in Díaz-Martínez et al., 2016:667**

GULF OF CALIFORNIA DISTRIBUTION. WC: Los Tornos, BCS.

TYPE LOCALITY. Cayaquitos, Guerrero, Mexico.

REMARKS. Described from Guerrero, tropical Pacific Mexico, *Padina ramonribae* has also been reported in the southern Gulf from Los Tornos (Ávila-Ortiz and Pedroche, 2005; Pedroche et al., 2008).

Uncertain Record: *Padina sanctae-crucis* Borgesen, 1914:45

REMARKS. Further investigation of southern Gulf specimens referred to *P. sanctae-crucis* from Bahía del Rincón is required to verify their identification (Pedroche et al., 2008).

Excluded Species: *Padina tetrastromatica* Hauck, 1887:43

REMARKS. Ávila-Ortiz and Pedroche (1999), Pedroche et al. (2008), and Norris (2010) concluded Pacific Mexico specimens of “*Padina tetrastromatica*” were misidentified and were actually *P. crispata* (see also Remarks above under *P. crispata*).

Excluded Species: *Padina gymnospora* (Kützinger) Sonder, 1871:47

REMARKS. Ávila-Ortiz and Pedroche (2005) found that tropical Pacific Mexico specimens identified as “*Padina gymnospora*” were either *P. crispata* or *P. mexicana* and noted *P. gymnospora* should be applied only to material from the Atlantic. Riosmena-Rodríguez et al. (2009) also concluded Gulf of California records of “*P. gymnospora*” and “*P. vickersiae*” (note *P. vickersiae* Hoyt in Howe, 1920, is a synonym of *P. gymnospora*; see Allender and Kraft, 1983) were misidentified and referred them to *P. mexicana*.

***Spatoglossum* Kützinger, 1843:339**

***Spatoglossum howellii* Setchell et N. L. Gardner, 1937:74**

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL.

TYPE LOCALITY. Isla Isabela (Isla Albemarle), Galápagos Islands, Ecuador.

***Spatoglossum lanceolatum* E. Y. Dawson, 1954c:328**

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON.

TYPE LOCALITY. In beach drift; north shore of Ensenada de San Francisco, Sonora, Gulf of California, Mexico.

***Spatoglossum schroederi* (C. Agardh) Kützinger, 1859:21**

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Pedro Nolasco, SON.

TYPE LOCALITY. Brazil.

REMARKS. The species concept of *Spatoglossum schroederi* (C. Agardh) Kützing (1859:21) is based on a specimen (*Liebmann*; Herb. Sonder) that was illustrated from Veracruz, Gulf of Mexico (Kützing, 1859: table 51, fig. 1). That specimen was not from the type locality in Brazil. Gulf of California *S. schroederi* needs to be compared with the type materials of *Zonaria schroederi* C. Agardh (1823) from Brazil to verify its identification in the Gulf of California.

Spatoglossum subflabellatum E. Y. Dawson, 1954c:326

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to Ensenada de San Francisco, SON.

TYPE LOCALITY. Dredged 11–18 m depths; near Punta de Las Cuevitas, Ensenada de San Francisco, Sonora, Gulf of California, Mexico.

SPHACELARIALES MIGULA, 1908:173, 237

SPHACELARIACEAE DECAISNE, 1842A:329, 341

***Sphacelaria* Lyngbye, in Hornemann, 1818:8, pl. MDC**

Sphacelaria brevicornis Setchell et N. L. Gardner, 1924a:725

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS. IS: Bahía San Gabriel, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. On *Sargassum polyacanthum* f. *americanum* Setchell et N. L. Gardner (1924a; now *S. sinicola* Setchell et N. L. Gardner); La Paz, Baja California Sur, Gulf of California, Mexico.

Sphacelaria californica (Sauvageau) Setchell et N. L. Gardner, 1925:395

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. WC: Puertecitos, BC, to San José del Cabo, BCS.

TYPE LOCALITY. San Diego, San Diego County, southern California, USA (Setchell and Gardner, 1925).

Sphacelaria hancockii E. Y. Dawson, 1944:225

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Balandra to Cabeza Ballena, BCS. IS: Isla Turner, ISG; Isla Carmen, BCS.

TYPE LOCALITY. On mid-intertidal rocks; San José del Cabo, Baja California Sur, Gulf of California, Mexico.

Sphacelaria rigidula Kützing, 1843:292

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal, SON, to Bahía de Banderas, JAL. WC: Playa El Coladorito, BC, to Cabeza Ballena, BCS. IS: Isla Tiburón, ISG; Isla San Francisco and Isla Espíritu Santo, BCS.

TYPE LOCALITY. On *Hormophysa cuneiformis* (J. F. Gmelin) P. C. Silva; Nuweiba, Sinai, Gulf of Aqaba, Red Sea, Egypt.

Sphacelaria sp. of Rocha-Ramírez and Siqueiros-Beltrones, 1991

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Balandra, BCS.

Sphacelaria tribuloides Meneghini, 1840:[2]

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Playa Santa Teresa, BC, to Bahía de La Paz, BCS. IS: Isla San Diego and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. On submerged rocks; La Spezia, Gulf of Spezia, Ligurian Sea, northern Italy.

LITHODERMATAEAE HAUCK, 1883:188, 318

***Pseudolithoderma* Svedelius, in Kjellman and Svedelius, 1910:175**

Pseudolithoderma nigrum Hollenberg, 1969:297

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Los Muertos, NAY, to Bahía de Banderas, JAL. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Corona del Mar, Orange County, southern California, USA.

FUCOPHYCIDAE CAVALIER-SMITH, 1986:341

DESMARESTIALES SETCHELL ET N. L. GARDNER, 1925:554

DESMARESTIACEAE (THURET) KJELLMAN, 1880:10

***Desmarestia* J. V. Lamouroux, 1813:43**

Desmarestia filamentosa E. Y. Dawson, 1944:236

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta La Gringa, Bahía de Los Ángeles, BC. IS: Isla Mejía, Roca Blanca, and Puerto Refugio, Isla Ángel de la Guarda, and Isla San Esteban, ISG.

TYPE LOCALITY. Dredged 27.4 m (15 fathoms) depth; Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Baja California, Gulf of California, Mexico.

Desmarestia munda subsp. *mexicana* (E. Y. Dawson) J. N. Norris, 2010:146

GULF OF CALIFORNIA DISTRIBUTION. IS: Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, and Isla Estanque, ISG.

TYPE LOCALITY. Dredged 27.4 m (15 fathoms) depth; Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

ECTOCARPALES SETCHELL ET N. L. GARDNER, 1922c:403**ACINETOSPORACEAE HAMEL, 1931:8*****Feldmannia* Hamel, 1939:xli**

Feldmannia indica (Sonder) Womersley et A. Bailey, 1970:288
GULF OF CALIFORNIA DISTRIBUTION. EC: Isla María Magdalena, NAY.

TYPE LOCALITY. Pulo Kambing, Bima Bay, Sumbawa (Bima Island), Indonesia.

Feldmannia irregularis (Kützinger) Hamel, 1939:xvii
GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Canal de Infernillo, SON.

TYPE LOCALITY. On *Laurencia obtusa*; Adriatic Sea.

Feldmannia mitchelliae (Harvey) H.-S. Kim, 2010:51
GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Playa Los Cerritos, SIN. WC: Playa Santa Teresa to Puertecitos, BC; Bahía Concepción to San José del Cabo, BCS. IS: Isla San Diego, BCS.

TYPE LOCALITY. Nantucket, Nantucket County, Massachusetts, USA.

REMARKS. Previously, *Feldmannia mitchelliae* has been reported as *Hincksia mitchelliae* (Harvey) P. C. Silva (in Silva et al., 1987) in the Gulf of California (Pedroche et al., 2008).

***Hincksia* J. E. Gray, 1865:12**

Hincksia bryantii (Setchell et N. L. Gardner) J. N. Norris, 2010:169
GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía de La Paz, BCS. IS: Isla San Juan Nepomuceno and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Epiphytic on *Codium brandegeei*; La Paz, Baja California Sur, Gulf of California, Mexico.

Hincksia granulosa (J. E. Smith) P. C. Silva, in Silva et al., 1987:130
GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Pelicano and Isla Alcatraz, SON.

SYNTYPE LOCALITIES. Brighton (Brighton) [East Sussex] and Shoreham [West Sussex], England, UK (Silva et al., 1996).

REMARKS. Womersley (1987) noted the type was from England, but it has not been located (Clayton, 1974; see Guiry and Guiry, 2015).

PYLAIELLACEAE P. M. PEDERSEN, 1984:50***Pylaiella* Bory de Saint-Vincent, 1823:393**

REMARKS. More recently *Pylaiella* has been treated as a member of the Acinetosporaceae (see Silberfeld et al., 2014).

Pylaiella sp. A of Norris, 2010:187

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON.

CHORDARIACEAE GREVILLE, 1830:44***Compsonema* Kuckuck, 1899:58**

Compsonema immixtum Setchell et N. L. Gardner, 1924a:724
GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Partida [norte], ISG.

TYPE LOCALITY. On *Colpomenia sinuosa* f. *deformans*—now *C. phaeodactyla* (M. J. Wynne et J. N. Norris); Isla Partida (Isla Cordonazo), Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Compsonema intricatum Setchell et N. L. Gardner, 1922a:354
GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN.

TYPE LOCALITY. On *Fucus gardneri*; Carmel Bay, Monterey County, central California, USA.

Compsonema serpens Setchell et N. L. Gardner, 1922a:363
GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Vallarta, JAL. WC: Playa El Coloradito to Puertecitos, BC.

TYPE LOCALITY. Carmel Bay, Monterey County, central California, USA.

***Haplogloia* Levring, 1939:48**

Haplogloia andersonii (Farlow) Levring, 1939:50
GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Concepción, BCS.

TYPE LOCALITY. Santa Cruz, Santa Cruz County, California, USA.

***Hecatonema* Sauvageau, 1898:248**

Hecatonema streblonematooides (Setchell et N. L. Gardner) Loiseaux, 1970:253
GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Segundo Cerro Prieto, Bahía Kino, SON; Playa de Guayabitos and Las Peñas, NAY, to Puerto Vallarta, JAL. IS: Isla Pelicano, SON.

TYPE LOCALITY. On *Nereocystis luetkeana* (K. Mertens) Postels et Ruprecht; Tomales Bay, Marin County, northern California, USA.

***Myriactula* Kuntze, 1898:74, 415**

Myriactula johnstonii (Setchell et N. L. Gardner) Feldmann, 1945:223
GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Marcos, BCS.

TYPE LOCALITY. On *Sargassum insulare* Setchell et N. L. Gardner (now *S. lapazeanum* Setchell et N. L. Gardner); Isla San Marcos, northern Baja California Sur, Gulf of California, Mexico.

Myriactula marchantiae (Setchell et N. L. Gardner) Feldmann, 1945:223

GULF OF CALIFORNIA DISTRIBUTION. WC: La Paz, BCS.

TYPE LOCALITY. On *Sargassum horridum* Setchell et N. L. Gardner; La Paz, Baja California, Gulf of California, Mexico.

***Nemacystus* Derbès et Solier, 1850:269**

Nemacystus brandegeei (Setchell et N. L. Gardner) Kylin, 1940:49

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Playa El Coloradito, BC, to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, and Bahía Agua Dulce, Isla Tiburón, ISG; Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. La Paz, Baja California Sur, Gulf of California, Mexico.

***Streblonema* Derbès et Solier, 1851:100**

Streblonema transfixum Setchell et N. L. Gardner, 1922b:391

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Coronado, BC.

TYPE LOCALITY. On *Desmarestia herbacea* (Turner) J. V. Lamouroux; San Pedro, Los Angeles County, southern California, USA.

Streblonema sp. A of Norris, 2010:180

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON.

REMARKS. Record is from the finding of filaments of *Streblonema* sp. on intertidal *Cutleria hancockii* in the upper Gulf (La Claire and West, 1977).

LEATHESIACEAE FARLOW, 1881:16, 79

***Leathesia* S. F. Gray, 1821:279, 301**

REMARKS. *Leathesia* has also been treated as a member of the Chordariaceae (see Peters and Ramírez, 2001; Silberfeld et al., 2014).

Leathesia nana Setchell et N. L. Gardner, 1924b:3

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Playa El Coloradito, BC.

TYPE LOCALITY. Monterey, Monterey County, central California, USA.

ECTOCARPACEAE C. AGARDH, 1828:9

***Ectocarpus* Lyngbye, 1819:130**

Ectocarpus acutus Setchell et N. L. Gardner, 1922c:404

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía de La Paz, BCS. IS: Isla Espíritu Santo, BCS.

TYPE LOCALITY. Carmel, Monterey County, central California, USA.

Ectocarpus chantransioides Setchell et N. L. Gardner, 1922c:406

GULF OF CALIFORNIA DISTRIBUTION. WC: Cabo Pulmo, BCS.

TYPE LOCALITY. Santa Monica, Los Angeles County, southern California, USA.

Ectocarpus commensalis Setchell et N. L. Gardner, 1922c:407

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Carelleros (Careyeros), NAY, to Bahía de Banderas, JAL. IS: Isla Alcatraz, SON; Isla Turner, ISG; Isla Larga, NAY.

LECTOTYPE LOCALITY. On *Codium setchellii* N. L. Gardner; Carmel Bay, Monterey County, central California, USA.

Ectocarpus corticulatus De A. Saunders, 1898:152

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS. IS: Isla de la Piedra, SIN.

TYPE LOCALITY. Pacific Grove, Monterey County, central California, USA.

Ectocarpus gonodioides Setchell et N. L. Gardner, 1924a:721

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía de Los Ángeles, BC; Bahía Agua Verde to Punta Arena, BCS. IS: Isla Coronado, BC; Isla Espíritu Santo, BCS.

TYPE LOCALITY. On *Codium cuneatum* Setchell et N. L. Gardner (now *C. simulans* Setchell et N. L. Gardner); Isla Coronado (Isla Smith), north of Bahía de Los Ángeles, Baja California, Gulf of California, Mexico.

Ectocarpus hancockii E. Y. Dawson, 1944:222

GULF OF CALIFORNIA DISTRIBUTION. WC: El Faro de San Felipe, BC. IS: Isla Turner, ISG.

TYPE LOCALITY. Reef; Isla Turner (off southeast end of Isla Tiburón), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Ectocarpus parvus (De A. Saunders) Hollenberg, 1971:283

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Playa Norte and Punta Derecha, SIN, to Bahía de Banderas, JAL. WC: Bahía de La Paz, BCS. IS: Isla Pelicano, SON.

TYPE LOCALITY. On “sand-colored rocks;” San Pedro, Los Angeles County, southern California, USA.

Ectocarpus rallsiae Vickers, 1905:59

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de los Muertos to Punta Arena, BCS.

TYPE LOCALITY. Barbados, Lesser Antilles, Caribbean Sea.

REMARKS. *Ectocarpus rallsiae* was recorded in the southern Gulf of California by Mateo-Cid et al. (2000, as *Hinckesia rallsiae* (Vickers) P. C. Silva).

Ectocarpus siliculosus (Dillwyn) Lyngbye, 1819:131

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal to Punta Gorda, SON; Playa de Guayabitos and Playa Las Peñas, NAY. WC: Playa Santa Teresa to Puertecitos, BC.

SYNTYPE LOCALITIES. Cromer, Norfolk [county], and Hastings, East Sussex [county], England, UK.

REMARKS. Phylogenetic analyses by Montecinos et al. (2017) of specimens identified as *E. siliculosus* revealed at least 15 cryptic species within the “*E. siliculosi*-group.” Four of these, including *E. siliculosus*, were found in the North and South Pacific. They noted it was impossible in the field to distinguish between species of this *E. siliculosi*-group. Molecular analyses of Gulf of California specimens will help elucidate their identifications.

Ectocarpus simulans Setchell et N. L. Gardner, 1922c:412

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa de Guayabitos and Playa Las Peñas, NAY, to Bahía de Banderas, JAL. WC: Bahía de La Paz to Cabo Pulmo, BCS.

TYPE LOCALITY. Cypress Point, Monterey County, central California, USA.

Ectocarpus sonorensis E. Y. Dawson, 1944:221

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON.

TYPE LOCALITY. On rocks in tidal stream; 3 km east of Guaymas, Sonora, Gulf of California, Mexico.

**CHNOOSPORACEAE SETCHELL ET N. L. GARDNER,
1925:400, 552**

REMARKS. This family has also been treated as being synonymous with the Scytosiphonaceae (e.g., Silberfeld et al., 2014).

***Chnoospora* J. Agardh, 1847:7**

Chnoospora implexa J. Agardh, 1848:172

GULF OF CALIFORNIA DISTRIBUTION. WC: Santa Rosalía to Punta San Evaristo, BCS. IS: Isla Mejía and Isla Ángel de la Guarda, ISG; Isla Cholla and Isla San Francisco, BCS.

TYPE LOCALITY. Near El-Tor, Sinai Peninsula, Gulf of Suez, Egypt.

Chnoospora minima (K. Hering) Papenfuss, 1956:69

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Carelleros (Careyeros), NAY, to Bahía de Banderas, JAL. WC: Bahía Concepción to Bahía de La Paz, BCS. IS: Isla Cholla and Isla Espíritu Santo, BCS; Isla Larga, NAY.

TYPE LOCALITY. Port Natal, Durban, South Africa.

REMARKS. Some Gulf of California records of *C. minima* may be *C. pacifica*; they need to be critically compared

with *Fucus minimus* K. Hering (1841), the type of South African *C. minima*.

Chnoospora pacifica J. Agardh, 1847:7

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía San Pedro, SON, to Bahía de Banderas, JAL. WC: Bahía de La Paz, BCS. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. San Agustín, Oaxaca, Mexico.

SCYTOSIPHONACEAE FARLOW, 1881:15, 62

***Colpomenia* (Endlicher)
Derbès et Solier, 1851:95**

Colpomenia durvillei (Bory de Saint-Vincent) M. E. Ramírez,
in Ramírez and Rojas, 1991:17

GULF OF CALIFORNIA DISTRIBUTION. EC: “Las Cuevas, SON” (Lee et al., 2012:371, table 1).

TYPE LOCALITY. Concepción, Bío Bío Region, Province Concepción, Chile.

REMARKS. Specimens from “Las Cuevas, Sonora” (probably Punta Las Cuevas, SON; note there is also a Las Cuevas near Sayulita, NAY) were found to be genetically identical to the Chilean *C. durvillei* (Lee et al., 2012:371, fig. 2). The South American *C. durvillei* may be a species recently introduced to the northern Gulf or it possibly has been overlooked. Similar in appearance to some *C. phaeodactyla*, the phylogenetic relationship of these two needs further elucidation (see also Remarks under *C. phaeodactyla*).

Colpomenia peregrina Sauvageau, 1927:321

GULF OF CALIFORNIA DISTRIBUTION. WC: Tarabillas to Punta León, Bahía de La Paz, BCS.

LECTOTYPE LOCALITY. Brittany, northwest France.

Colpomenia phaeodactyla M. J. Wynne et J. N. Norris, 1976:5

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, to Bahía Kino, SON. WC: El Huerfanito to Bahía San Francisco, BC. IS: Isla Mejía, Puerto Refugio, Isla Ángel de la Guarda, Isla Turner, and Isla San Esteban, ISG.

TYPE LOCALITY. On tidal platform; Playa Estación, Puerto Peñasco, Sonora, Gulf of California, Mexico.

REMARKS. Specimens resembling *C. phaeodactyla* from “Las Cuervas” were genetically identified as *C. durvillei* by Lee et al. (2012). The two are distinct morphologically (Wynne and Norris, 1976; Norris, 2010; Lee et al., 2012), with both now recognized in the northern Gulf of California. The type of upper Gulf *C. phaeodactyla* should be molecularly analyzed to further elucidate its relationship to Chilean type of *C. durvillei* (note that if the locale is Punta Las Cuevas, Sonora, it is about 444 km south of Puerto Peñasco, type locality of *C. phaeodactyla*; see also Remarks under *Colpomenia durvillei*).

Colpomenia ramosa W. R. Taylor, 1945:84

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON, to Mazatlán, SIN. WC: Bahía San Luis

Gonzaga to Bahía de Los Ángeles, BC; Bahía de La Paz, BCS. IS: Isla San Luis Gonzaga, BC; Bahía San Gabriel, Isla Espíritu Santo, BCS; Isla de la Piedra, SIN.

TYPE LOCALITY. Bahía Sur, Isla Cedros, off Pacific coast of Baja California, Mexico.

***Colpomenia sinuosa* (Mertens ex Roth) Derbès et Solier, 1851:95**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Mazatlán, SIN. WC: Puerto San Felipe, BC, to Cabo San Lucas, BCS. IS: Isla San Luis Gonzaga, BC; Isla Mejía, Puerto Refugio, Isla Ángel de la Guarda, and Isla Tiburón, ISG; Isla San Pedro Nolasco, SON; Isla Espíritu Santo, BCS.

TYPE LOCALITY. Near Cádiz, Bahía de Cádiz, Andalusia region, southwestern Spain.

***Colpomenia sinuosa* f. *expansissima* Setchell et N. L. Gardner, 1924a:726**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía San Francisquito, BC.

TYPE LOCALITY. “Floating in large billowy masses out in the bay” (I. M. Johnson, in Setchell and Gardner, 1924a:726); Bahía San Francisquito, Baja California, Gulf of California, Mexico.

REMARKS. *Colpomenia sinuosa* f. *expansissima* was described by Setchell and Gardner (1924a) as large, thin fronds that were very similar to *C. sinuosa* f. *expansa* De A. Saunders (1898). Although it was later considered a form of *C. tuberculata* by Dawson (1944, as *C. sinuosa* f. *tuberculata*), its taxonomic status needs to be reinvestigated.

***Colpomenia* sp. A of Norris, 2010:193**

GULF OF CALIFORNIA DISTRIBUTION. EC: Ensenada de San Francisco, SON. WC: Puerto Calamajué to Punta La Gringa, BC; Puerto Escondido, BCS. IS: Isla La Ventana, BC; Isla San Esteban, ISG; Bahía Salinas, Isla Carmen, BCS.

REMARKS. *Colpomenia* sp. A is morphologically the same as “*C. sinuosa*? open-expanded sheet form” of Wynne and Norris (1976:5) and “*C. sinuosa* f. *expansa*” of Pedroche et al. (2008). The minute, spine-like projections of *Colpomenia sinuosa* f. *expansissima* are lacking on the expanded sheet-like *Colpomenia* sp. A (Wynne and Norris, 1976; Norris, 2010; see also Remarks under *Colpomenia sinuosa* f. *expansissima*).

***Colpomenia tuberculata* De A. Saunders, 1898:164**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Mazatlán, SIN. WC: El Machorro, BC, to San José del Cabo, BCS. IS: Isla Alcatraz, SON; Isla San Luis Gonzaga and Islas de Los Gemelos, BC; Isla Mejía and Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Turner, and Isla Partida (Isla Cordonazo), ISG; Isla Espíritu Santo and Isla Partida [sur], BCS.

TYPE LOCALITY. Near San Pedro, Los Angeles County, southern California, USA.

***Hapterophycus* Setchell et N. L. Gardner, in Setchell, 1912:233**

REMARKS. Kogame (1996) considered the genus synonymous with *Scytosiphon* (see also Silberfeld et al., 2014). Although Hollenberg (1941) concluded *Hapterophycus* was close to Ralfsiaceae, others treat the genus as belonging in the Scytosiphonaceae. Phylogenetic analyses will help resolve familial placement of the genus (Norris, 2014).

***Hapterophycus?* *anastomosans* E. Y. Dawson, 1966b:56**

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Lorenzo and Isla Rasa, ISG.

TYPE LOCALITY. Isla Rasa, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. The taxonomic placement of this endemic species was queried by Norris (2014). Molecular phylogenetic analyses will help resolve its generic and familial placement.

***Hydroclathrus* Bory de Saint-Vincent, 1825:419**

***Hydroclathrus clathratus* (C. Agardh) M. Howe, 1920:590**

GULF OF CALIFORNIA DISTRIBUTION. WC: Playa El Coloradito, BC, to Cabeza Ballena, BCS. IS: Punta Perla, Isla Tiburón, ISG; Isla San José, Isla San Francisco, Isla San Juan Nepomuceno, and Isla Espíritu Santo, BCS.

SYNTYPE LOCALITIES. Three locales for the basionym, *Encoelium clathratum* C. Agardh (1823): Belle-Île, Brittany, France; Rauki, Waigeo Island, Moluccas, Indonesia; and Shark Bay, Western Australia.

LECTOTYPE LOCALITY. Belle-Île, Brittany, France (Howe, 1920; Womersley, 1987); however, this locale may be incorrect since the mollusk shells found associated with the lectotype collection are not known from this locality (Hamel, 1937; Silva et al., 1996).

***Rosenvingea* Børgesen, 1914:22**

***Rosenvingea antillarum* (P. Crouan et H. Crouan) M. J. Wynne, 1997:334**

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal to Punta Gorda, SON.

TYPE LOCALITY. Le Moule, Grande-Terre, Guadeloupe, French West Indies.

***Rosenvingea floridana* (W. R. Taylor) W. R. Taylor, 1955:72**

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal to Punta Gorda, SON. WC: Punta La Gringa, Bahía de Los Ángeles, BC. IS: Puerto Refugio, Isla Ángel de la Guarda, and Estanque (?), ISG.

TYPE LOCALITY. East Cay, Dry Tortugas (Dry Tortugas National Park), Florida Keys, Monroe County, Gulf of Mexico, Florida, USA.

Rosenvingea intricata (J. Agardh) Børgesen, 1914:26

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON. WC: Punta Bufo to Bahía San Luis Gonzaga, BC; Bahía Concepción to Punta Arena, BCS.

TYPE LOCALITY. Veracruz [city], Veracruz [state], Gulf of Mexico, Mexico.

***Petalonia* Derbès et Solier, 1850:266**

REMARKS. The recorded presence of the two species of *Petalonia* below in the Gulf of California requires further investigation (see also Remarks under *Stragularia clavata*).

Uncertain Record: *Petalonia binghamiae* (J. Agardh)

Vinogradova, 1973:31

GULF OF CALIFORNIA DISTRIBUTION. EC: Cabo Tepoca, SON.

Uncertain Record: *Petalonia fascia* (O. F. Müller) Kuntze, 1898:419

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Libertad, SON; Mazatlán, SIN.

***Stragularia* Strömfelt, 1886:49**

REMARKS. The generic status of species of *Stragularia* requires further investigation. Culture studies on some encrusting species of *Stragularia*, *Ralfsia*, or “*Ralfsia*-like” found them to be a phase in heteromorphic life history of an erect blade-like thallus such as those of *Petalonia* (e.g., Wynne, 1969, 1972; Nakamura and Tatewaki, 1975; Fletcher, 1978). Many are probably life history phases of members of the Scytosiphoniaceae (Guiry and Guiry, 2016).

Stragularia clavata (Harvey) Hamel, 1939:70

GULF OF CALIFORNIA DISTRIBUTION. EC: Las Cuevas, NAY. IS: Isla Larga, NAY.

REMARKS. A prostrate species recorded in the southeastern Gulf of California (León-Alvarez and González-González, 1993). Culture and genetic studies will elucidate what genus/species is part of the life history of the Gulf taxon.

RALFSIALES NAKAMURA EX P.-E. LIM ET H. KAWAI, IN LIM ET AL., 2007:464**HAPALOSPONGIACEAE REYES-GÓMEZ ET LEÓN-ÁLVAREZ, IN LEÓN-ÁLVAREZ ET AL., 2017:13*****Hapalospongidion* De A. Saunders, 1899:7***Hapalospongidion gelatinosum* De A. Saunders, 1899:37

GULF OF CALIFORNIA DISTRIBUTION. EC: Cabo Corrientes to Bahía de Banderas, JAL. WC: Punta Santa Rosalía, BC; Cabo Pulmo and Punta Frailes to Cabeza de Balena, BCS.

TYPE LOCALITY. Point Aulon (Lover's Point), Pacific Grove, Monterey County, central California, USA. Lectotype and epitype were selected by León-Alvarez et al. (2017: 4, 5, fig. 2).

NEORALFSIACEAE P.-E. LIM ET H. KAWAI, IN LIM ET AL., 2007:464***Neoralfsia* P.-E. Lim et H. Kawai, in Lim et al., 2007:464***Neoralfsia hancockii* León-Álvarez et Núñez-Reséndiz, in León-Álvarez et al., 2014a:145

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Bahía de Banderas, JAL. WC: Puertecitos, BC, to San José del Cabo, BCS. IS: Isla Larga, NAY.

TYPE LOCALITY. Southern end of San José del Cabo, Baja California Sur, Gulf of California, Mexico.

REMARKS. Previous Gulf of California records of *Neoralfsia hancockii* were referred to as “morph A” sensu León-Álvarez and González-González (1995), “*Ralfsia expansa*” (León-Álvarez and González-González, 2003), and “*Ralfsia hancockii*” (León-Álvarez and Norris, 2010).

RALFSIACEAE FARLOW, 1881:17, 86***Endoplura* Hollenberg, 1969:298***Endoplura aurea* Hollenberg, 1969:300

GULF OF CALIFORNIA DISTRIBUTION. WC: La Paz to Punta Los Frailes, BCS.

TYPE LOCALITY. Laguna Beach, Orange County, southern California, USA.

Ralfsia* Berkeley, in Smith and Sowerby, 1843:pl. 2866+[2]pp.Ralfsia confusa* Hollenberg, 1969:291

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto San Carlos, SON, to Bahía de Banderas, JAL. WC: Bahía Concepción to Cabo Pulmo, BCS. IS: Isla Espíritu Santo, BCS; Isla Larga, NAY.

TYPE LOCALITY. Corona del Mar, Orange County, southern California, USA.

Ralfsia fungiformis (Gunnerus) Setchell et N. L. Gardner, 1924b:11

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa de Guayabitos and Playa Las Peñas, NAY.

TYPE LOCALITY. Iceland.

Ralfsia hesperia Setchell et N. L. Gardner, 1924b:2

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Los Cerritos, Punta Chile, and Cerro El Crestón (Isla El Crestón), SIN. IS: Isla Los Lobos, SIN.

TYPE LOCALITY. Carmel Bay, Monterey County, central California, USA.

Ralfsia integra Hollenberg, 1969:295–296

GULF OF CALIFORNIA DISTRIBUTION. EC: Manzanillas, NAY.

TYPE LOCALITY. Laguna Beach, Orange County, southern California, USA.

Ralfsia pacifica Hollenberg, in Smith, 1944:95

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerta Peñasco, SON, to Bahía de Banderas, JAL. WC: Playa Santa Teresa, BC, to Cabo Pulmo, BCS. IS: Isla Turner and Isla San Esteban, ISG.

SYNTYPE LOCALITIES. Three locales given by Hollenberg (in Smith, 1944:96): “along the shore near: Bird Rock [largest of Seal Rocks], Pebble Beach, and north end of Carmel Beach,” all Monterey County, central California, USA.

REMARKS. The publication of *R. pacifica* Hollenberg (in Smith, 1944:95) supercedes the publication of Hollenberg (1969), which included another choice for its type and type locality. Therefore a lectotype specimen in agreement with the original protologue of Hollenberg (in Smith, 1944:95–96) needs to be chosen from the listed syntype localities of Hollenberg’s Monterey Peninsula collections of that time.

Ralfsia-like crust 1 of Dawson, 1966a:9, as “*Ralfsia* spp.”

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON.

Ralfsia-like crust 2 of Dawson, 1966a:9, as “*Ralfsia* spp.”

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON.

Uncertain Record: *Ralfsia californica* Setchell et N. L. Gardner, 1924b:2

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto San Carlos, SON. IS: Isla Turner, ISG; Bahía San Gabriel, Isla Espíritu Santo, BCS.

REMARKS. The nonfertile northern Gulf (Dawson, 1944) and the Jalisco specimens (Taylor, 1945) referred to “*R. californica*” need reinvestigation (Pedroche et al., 2008; León-Álvarez and Norris, 2010).

SCYTOTHAMNALES A. F. PETERS ET M. N. CLAYTON, 1988:111

ASTERONEMATACEAE SILBERFELD, RACAULT, R. L. FLETCHER, F. ROUSSEAU ET B. DE REVIERS, IN SILBERFELD ET AL., 2011:375

Asteronema Delépine et Asensi, 1975:296

Asteronema breviarticulatum (J. Agardh) Ouriques et Bouzon, 2000:271

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. San Agustín, Oaxaca, Mexico.

REMARKS. It has also been reported outside the entrance to the Gulf to the south from Playa Mezcales, Jalisco (Mendoza-González and Mateo-Cid, 1992).

SPOROCHNALES SAUVAGEAU, 1926:364

SPOROCHNACEAE GREVILLE, 1830:36

Sporochnus C. Agardh, 1817:xii

Sporochnus anomalus (Pallas) M. J. Wynne, 2003:78

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Los Ángeles, BC. IS: Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Not given by Pallas (1766, as *Fucus anomalus*); Mediterranean (Gmelin, 1768).

Sporochnus neushulii J. N. Norris, 2010:153

GULF OF CALIFORNIA DISTRIBUTION. IS: Roca Blanca and Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. At 20–30 m depths; off west side of Roca Blanca, Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

TILOPTERIADALES BESSEY, 1907:290

REMARKS. Cuteriales Oltmann (1922) is also used for this order, but see comments of Silberfeld et al. (2014) and Guiry and Guiry (2014–2017).

CUTLERIACEAE GRIFFITH ET HENFREY, 1856:179

REMARKS. Although usually cited as Cutleriaceae Hauck (1883), Griffith and Henfrey (1856) is an older publication of the family name.

Cutleria Greville, 1830:xliv, 59

Cutleria hancockii E. Y. Dawson, 1944:226 (gametophytes) and *Aglaozonia*-phase of *C. hancockii* (sporophyte)

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Mazatlán, SIN. WC: Playa El Colodito, BC, to Punta Arena, BCS. IS: Isla Alcatraz and Isla San Pedro Nolasco, SON; Isla San Luis Gonzaga, BC; Isla Estanque, Isla Tiburón, and Isla Turner, ISG.

TYPE LOCALITY. *Cutleria hancockii* (gametophyte): low intertidal on rocky reef; Isla Turner (off SE end of Isla Tiburón), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico; [and] *Aglaozonia*-phase (sporophyte): low intertidal on rock-shingle beach; SW shore of Isla Tiburón (opposite Isla Turner), Sonora, Islas Grandes, Gulf of California, Mexico.

FUCALES BORY DE SAINT-VINCENT, 1827b:62**SARGASSACEAE KÜTZING, 1843:349, 359*****Sargassum* C. Agardh, 1820:1**

Sargassum acinacifolium Setchell et N. L. Gardner, 1924a:732

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Bahía San Francisquito, BC. IS: Isla Tiburón, ISG.

TYPE LOCALITY. Cast ashore; “Guaymas (?)” (locality questioned by Setchell and Gardner, 1924a:732), Sonora, Gulf of California, Mexico.

Sargassum brandegeei Setchell et N. L. Gardner, 1924a:736

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Norse, Puerto Peñasco, to Guaymas, SON. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Isla Tiburón, and Isla San Esteban, ISG; Isla San Pedro Nolasco, SON.

TYPE LOCALITY. Cast ashore; “Guaymas (?)” (locality questioned by Setchell and Gardner, 1924a:736), Sonora, Gulf of California, Mexico.

REMARKS. *Sargassum brandegeei* was treated as a synonym of *S. herporhizum* by Andrade-Sorcia et al. (2014).

Sargassum herporhizum Setchell et N. L. Gardner, 1924a:739

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Punta Las Cuevitas, SON. WC: Puertecitos, BC, to Bahía de La Paz, BCS. IS: Isla San Jorge, SON; Isla San Pedro Mártir, ISG.

TYPE LOCALITY. Isla San Jorge (“Georges Island,” Setchell and Gardner, 1924a:739), about 40 km southeast of Puerto Peñasco, Sonora, Gulf of California, Mexico.

Sargassum horridum Setchell et N. L. Gardner, 1924a:734

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Mazatlán, SIN. WC: Bahía Concepción to Cabo San Lucas, BCS. IS: Isla Tiburón and Isla San Esteban, ISG; Isla Cholla, Isla San José, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Cast ashore; La Paz, Baja California Sur, Gulf of California, Mexico.

REMARKS. Andrade-Sorcia et al. (2014) considered the Gulf endemic species, *S. camouii* E. Y. Dawson (1944; *S. sinicola* subsp. *camouii* (E. Y. Dawson) J. N. Norris et Yensen, in Norris, 2010), to be a synonym of *S. horridum* and selected *S. horridum* as the type for *S. sect. Horridum* Andrade-Sorcia et S.-M. Boo.

Sargassum howelli Setchell, 1937:132

GULF OF CALIFORNIA DISTRIBUTION. EC: Rincón de Guayabitos, NAY, to Puerto Vallarta, JAL. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Isla Clarión, Islas Revillagigedo, Colima, Mexico.

Sargassum johnstonii Setchell et N. L. Gardner, 1924a:737

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal to Ensenada de San Francisco, SON. WC: Playa Santa Teresa to San José, BC; Bahía Agua Verde to Bahía de La Paz, BCS. IS: Isla San Jorge and Isla Alcatraz, SON.

TYPE LOCALITY. Isla San Jorge (“Georges Island,” Setchell and Gardner, 1924a), about 40 km southeast of Puerto Peñasco, Sonora, Gulf of California, Mexico.

REMARKS. *Sargassum johnstonii*, the type of *S. sect. Johnstonii* E. Y. Dawson ex J. N. Norris (in Norris, 2010), was treated by Andrade-Sorcia et al. (2014) as a synonym of *S. sect. Lapazeanum* E. Y. Dawson ex J. N. Norris (in Norris, 2010).

Sargassum johnstonii f. gracile Setchell et N. L. Gardner, 1924a:738

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Bahía San Francisquito, BC.

TYPE LOCALITY. Cast ashore; Guaymas, Sonora, Gulf of California, Mexico.

REMARKS. Dawson (1944) noted that *S. johnstonii f. gracile* and *S. johnstonii f. laxius* were possibly only variants of a single polymorphic *S. johnstonii* (Pedroche et al., 2008). Andrade-Sorcia et al. (2014) commented specimens of *S. johnstonii f. gracile* either lacked mature reproductive structures or were incomplete and could not be separated from *S. johnstonii f. johnstonii*.

Sargassum lapazeanum Setchell et N. L. Gardner, 1924a:734

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Puertecitos, BC, to Cabo San Lucas, BCS. IS: Isla Alcatraz and Isla San Pedro Nolasco, SON; Isla Mejía and Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Isla Turner, Isla Tiburón, and Isla Partida (Isla Cordonazo), ISG; Isla Coronado and Isla la Ventana, BC; Isla Tortuga, Isla San Marcos, Isla San José, Isla Danzante, Isla San Juan Nepomuceno, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Cast ashore; near La Paz, Baja California Sur, Gulf of California, Mexico.

REMARKS. *Sargassum macdougalii* E. Y. Dawson (1944), a previously recognized Gulf endemic species, was treated as a synonym of *S. lapazeanum* by Andrade-Sorcia et al. (2014).

Sargassum liebmannii J. Agardh, 1847:8

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Los Cerritos, SIN, to Bahía de Banderas, JAL. WC: Bahía de La Paz to San José del Cabo, BCS. IS: Isla San Juan Nepomuceno, BCS; Isla María Magdalena, NAY.

TYPE LOCALITY. Bahía de San Agustín, Oaxaca, Mexico.

Sargassum pacificum Bory de Saint-Vincent, 1828:123

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY, to Puerto Vallarta, JAL. WC: Bahía de La Paz, BCS.

SYNTYPE LOCALITIES. Three locales: Chile; Port Praslin, New Ireland [Latanga Island, Papua New Guinea]; and Tahiti (Bory de Saint-Vincent, 1828).

LECTOTYPE LOCALITY. Concepción, Bío Bío Region, Province Concepción, Chile (Howe, 1914).

Sargassum pacificum var. *megaphyllum* W. R. Taylor, 1945:122

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL.

TYPE LOCALITY. Shore drift; Punta Albemarle, Isla Isabela, Galápagos Islands, Ecuador.

Sargassum palmeri Grunow, 1915:338

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS. IS: Isla Turner, ISG; Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. Isla Guadalupe, off Pacific coast of Baja California, Mexico.

Sargassum sinicola Setchell et N. L. Gardner, 1924a:736

GULF OF CALIFORNIA DISTRIBUTION. EC: Piedras de La Salina, SON, to Sistema Lagunar Altata-Ensenada del Pabellón, SIN. WC: Faro de San Felipe, BC, to Cabo San Lucas, BCS. IS: Isla Alcatraz and Isla San Pedro Nolasco, SON; Isla Estanque, Isla Patos, Isla Turner, and Isla San Pedro Mártir, ISG; Isla Tortuga, Isla San Ildefonso, Isla Carmen, Isla Danzante, and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. Cast ashore; Eureka, near La Paz, Baja California Sur, Gulf of California, Mexico.

REMARKS. *Sargassum sinicola*, the type of *S.* sect. *Sinicola* E. Y. Dawson ex J. N. Norris (in Norris, 2010), was later treated by Andrade-Sorcia et al. (2014:216, table 6) as a member of another section, *S.* sect. *Sargassum*.

Sargassum sonorensis E. Y. Dawson, 1960a:36

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON.

TYPE LOCALITY. On shore; southern end of Isla Tiburón (opposite Isla Turner), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. Although it was originally described as *Sargassum asymmetricum* E. Y. Dawson (1944), a homonym of *S. asymmetricum* Yamada (1942), Dawson (1960a) gave it a replacement name. *Sargassum sonorensis* was treated as a synonym of *S. lapazeanum* by Andrade-Sorcia et al. (2014).

Sargassum ulixei Andrade-Sorcia et S.-M. Boo, in Andrade-Sorcia et al., 2014:212

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Bahía Kino, SON.

TYPE LOCALITY. On subtidal rocks; Playa Las Conchas, Puerto Peñasco, Sonora, Gulf of California, Mexico.

Invasive Species: *Sargassum muticum* (Yendo) Fensholt, 1955:306

REMARKS. Since its introduction in the 1950s to the northeastern Pacific, the Japanese *S. muticum* has been found from Alaska to Baja California. It has continued to spread

southward along the Pacific Mexico coasts of Baja California to Baja California Sur (R. Aguilar-Rosas and Machado-Galindo, 1990; Pedroche et al., 2008; L. Aguilar-Rosas et al., 2014). The distribution of this highly invasive species should be monitored; if its expansion continues southward, it could potentially invade the Gulf of California (Riosmena-Rodríguez et al., 1992; Norris, 2010).

Uncertain Record: *Sargassum agardhianum* Farlow ex J. Agardh, 1889:93

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON; Puerto Vallarta, JAL. EC: Cabo San Lucas, BCS.

REMARKS. Described from San Diego, California, *Sargassum agardhianum* is known on the Pacific coast from southern California to central Baja California (Dawson et al., 1960; Abbott and Hollenberg, 1976; Pacheco-Ruiz, 1982; R. Aguilar-Rosas et al., 1990). The reported presence of this species in the Gulf of California needs to be verified.

EXCLUDED PHAEOPHYCEAE (LAMINARIALES)

Excluded Species: *Egregia laevigata* Setchell, 1896:44

REMARKS. Dawson (1949b) noted that his earlier report of *E. laevigata* in the Gulf of California (Dawson, 1946) was erroneous (Pedroche et al., 2008; Norris, 2010).

Excluded Species: *Macrocystis pyrifera* (Linnaeus) C. Agardh, 1820:47

REMARKS. Since the early report of *M. pyrifera*, apparently adrift, in the Gulf (Setchell and Gardner, 1924a; Dawson, 1944), there has been no further mention of it in published accounts, nor has it been collected by others in the Gulf (Pedroche et al., 2008; Norris, 2010).

SYNOPSIS OF GREEN ALGAL TAXA

The synoptic list below of Chlorophyta of the Gulf of California is of the phylum, classes, orders, families, and genera of green algae presented in the accounts following this list.

CHLOROPHYTA

CHLOROPHYTINA

ULVOPHYCEAE

Ulvales

Kornmanniaceae

Blidingia Kylin

Stromatella Kornmann et

Sahling

Phaeophilaceae

Phaeophila Hauck

Ulvaceae

Ulva Linnaeus

Ulva sect. *Ulva*

- Ulva* sect. *Enteromorpha*
(Link in Nees)
Endlicher
- Ulvellaceae
Entocladia Reinke
Epicladia Reinke
Uvella P. Crouan et H. Crouan
- CLADOPHOROPHYCEAE
- Cladophorales
Cladophoraceae
Chaetomorpha Kützing
Cladophora Kützing
Rhizoclonium Kützing
Willeella Børgesen
- Siphonocladales
Boodleaceae
Boodlea (Dickie) G. Murray
et De Toni
Cladophoropsis Børgesen
Phyllodictyon J. E. Gray
Struvea Sonder
- Siphonocladaceae
Dictyosphaeria Decaisne ex
Endlicher
Ernodesmis Børgesen
- Valoniaceae
Valonia C. Agardh
Valoniopsis Børgesen
- BRYOPSIDOPHYCEAE
- Bryopsidales
Bryopsidaceae
Bryopsis J. V. Lamouroux
- Derbesiaceae
Derbesia Solier
Halicystis-phase
- Codiaceae
Codium Stackhouse
Geppella Børgesen
- Caulerpaceae
Caulerpa J. V. Lamouroux
- Halimedaceae
Halimeda J. V. Lamouroux
- Udoteaceae
Chlorodesmis Harvey et Bailey
- DASYCLADOPHYCEAE
- Dasycladales
Dasycladaceae
Batophora J. Agardh
Neomeris J. V. Lamouroux
- Polyphysaceae
Acetabularia J. V. Lamouroux
Parvocaulis S. Berger,
Fettweiss, Gleissberg,
Liddle, U. Richter,
Sawitzky et Zuccarello

CHLOROPHYTA PASCHER, 1914:158**CHLOROPHYTINA CAVALIER-SMITH, 1998:450****ULVOPHYCEAE MATTOX ET K. D. STEWART,
1984:41, 66, NOM. INVALID.****ULVALES BLACKMAN ET TANSLEY, 1902:136****KORNMANNIACEAE L. GOLDEN ET K. COLE, 1986:272*****Blidingia* Kylin, 1947:181**

Blidingia marginata (J. Agardh) P. J. L. Dangeard ex Bliding,
1963:32

GULF OF CALIFORNIA DISTRIBUTION. WC:
Calerita, Bahía de La Paz, BCS.

TYPE LOCALITY. “Ad Nizzam” (Agardh, 1842:146);
Nice, Alpes-Maritimes, France.

Blidingia minima (Nägeli ex Kützing) Kylin, 1947:181

GULF OF CALIFORNIA DISTRIBUTION. WC:
Calerita, Bahía de La Paz, BCS.

TYPE LOCALITY. Helgoland (Heligoland), small ar-
chipelago in North Sea, Germany.

***Stromatella* Kornmann et Sahling, 1985:223**

Stromatella monostromatica (P. J. L. Dangeard) Kornmann et
Sahling, 1985:223

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla
Coronado and Isla la Ventana, BC.

TYPE LOCALITY. Collioure, Pyrénées-Orientales,
southern France.

**PHAEOPHILACEAE CHAPPELL, O’KELLY, L. W. WILLCOX
ET G. L. FLOYD, 1990:516**

REMARKS. The Phaeophilaceae, originally de-
scribed within Phaeophilales Chappell, O’Kelly, L. W. Willcox et
G. L. Floyd (1990), is now generally placed in the Ulvales (e.g.,
Brodie et al., 2007).

***Phaeophila* Hauck, 1876:56**

Phaeophila dendroides (P. Crouan et H. Crouan) Batters,
1902:13

GULF OF CALIFORNIA DISTRIBUTION. EC:
Puerto Peñasco, SON, to Puerto Vallarta, JAL. IS: Isla María
Magdalena, NAY.

TYPE LOCALITY. Brest, Finistère, France.

ULVACEAE J. V. LAMOUROUX EX DUMORTIER, 1822:71***Ulva* Linnaeus, 1753:1163, nom. cons.**

REMARKS. O’Kelly et al. (2010) suggested that spe-
cies of *Ulva* in tropical and subtropical regions are largely unique

to those areas, and the use of names based on types from temperate and boreal European and North American is probably misapplied (Guiry and Guiry, 2014).

Ulva* sect. *Ulva

Ulva californica Wille, in Collins et al., 1899: *P.B.-A.* Exsiccate no. 611

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Bahía de La Paz, BCS. IS: Isla San Luis Gonzaga, BC.

TYPE LOCALITY. La Jolla, San Diego County, southern California, USA.

REMARKS. Mora-Valdés and Riosmena-Rodríguez (2016) mistakenly stated that Norris (2010) cited *U. taeniata* as a synonym of *U. californica*. Only “*U. taeniata* sensu Dawson, 1945b:59” was cited (Norris, 2010:34; i.e., only specimens of Dawson, 1945, were referred to *U. californica*; and *U. taeniata* (Setchell) Setchell et N. L. Gardner, 1920, was not treated as being conspecific).

Ulva expansa (Setchell) Setchell et N. L. Gardner, 1920:25

GULF OF CALIFORNIA DISTRIBUTION. EC: Estero del Urías, SIN, to Bahía de Banderas, JAL. WC: Bahía de La Paz, BCS. IS: Isla Espíritu Santo, BCS; Isla Larga, NAY.

TYPE LOCALITY. Monterey, Monterey County, central California, USA.

Ulva fasciata Delile, 1813:297

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa El Sábalo, SIN, to Cabo Corrientes, JAL.

TYPE LOCALITY. Alexandria, Mediterranean Sea, Egypt.

REMARKS. *Ulva fasciata* has been identified in the southern Gulf and on the Pacific coast of Baja California (R. Aguilar-Rosas et al., 2005; L. Aguilar-Rosas et al., 2014). A potential invasive, its distribution in the Gulf should be monitored. O’Kelly et al. (2010) treated *U. fasciata* as a synonym of *U. lactuca*, and Pacific Mexico and Gulf of California materials need to be comparatively studied with type and type locality specimens to verify their identity.

Ulva lactuca Linnaeus, 1753:1163

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Punta Bufeo, BC, to Arrecife de Cabo Pulmo, BCS. IS: Isla San Pedro Nolasco, SON; Isla Carmen, Isla San Ildefonso, Isla Espíritu Santo, Isla Partida, and Isla San Juan Nepomuceno, BCS; Isla de la Piedra, SIN.

TYPE LOCALITY. “In Oceano” [Atlantic Ocean] (Linnaeus, 1753:1163).

LECTOTYPE LOCALITY. West coast of Sweden (Papenfuss, 1960; Womersley, 1984).

REMARKS. Gulf of California specimens referred to “*U. lactuca*” need to be investigated to clarify their relationship to type material of *Ulva lactuca* Linnaeus.

Ulva lobata (Kützinger) Harvey, 1855b:265

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. WC: Playa Santa Teresa, BC, to Bahía de La Paz, BCS. IS: Isla Espíritu Santo and Isla Partida, BCS.

TYPE LOCALITY. Chile.

Ulva nematoidea Bory de Saint-Vincent, 1828:190

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Chueca, SON, to Bahía de Banderas, JAL. WC: Playa Santa Teresa, BC, to Bahía de La Paz, BCS.

TYPE LOCALITY. Concepción, Bío Bío Region, Province Concepción, Chile.

REMARKS. Wynne (2002) placed *U. fasciata* f. *costata* M. Howe (1914; =*U. costata* (M. Howe) Hollenberg, 1971, *nom. illeg.*) in synonymy with *Ulva nematoidea*.

Ulva rigida C. Agardh, 1823:410

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Estación, Puerto Peñasco, SON. WC: Bahía San Felipe to Bahía de La Paz, BCS. IS: Isla San Jorge, SON; Isla Patos and Isla Turner, ISG; Isla San Juan Nepomuceno, BCS; Isla María Madre, NAY.

TYPE LOCALITY. Cádiz, Bahía de Cádiz, Andalusia region, Cádiz Province, southwestern Spain.

Ulva taeniata (Setchell) Setchell et N. L. Gardner, 1920:286

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL. WC: El Malecón to Calerita, Bahía de La Paz, BCS. IS: Isla San Gabriel, Isla Espíritu Santo, and Isla Partida, BCS; Isla de la Piedra, SIN.

TYPE LOCALITY. Monterey, Monterey County, central California, USA.

REMARKS. Although this species is sometimes treated as being conspecific with *U. nematoidea* (e.g., Norris, 2010), it is probable they are distinct, and studies are needed to see if one or both may be present in the Gulf. Although *U. dactylifera* Setchell et N. L. Gardner (1920) was listed as the currently accepted name (Guiry and Guiry, 2015), Haden and Waaland (2004) had previously placed it in synonymy with *U. taeniata*.

Invasive Species: *Ulva pertusa* Kjellman, 1897:4

SYNTYPE LOCALITIES. Three locales in Japan, “Hakodate, Yenoshima et Yokohama, Japoniae” (Kjellman, 1897:4): (1) Hakodate, Hokkaido Island; (2) Enoshima Island (Yenoshima), offshore in Sagami Bay; and (3) Yokohama, Tokyo Bay, Kanagawa Prefecture, both Honshū Island.

REMARKS. A western Pacific species, *Ulva pertusa* is also recorded in the eastern Pacific from northern Baja California (R. Aguilar-Rosas et al., 2008; L. Aguilar-Rosas et al., 2014). It is invasive, and should it spread into the Gulf of California, it could become a problem (Norris, 2010). Kraft et al. (2010) reinstated the South Australian *U. australis* Areschoug (1854) and found it was related to California material referred to “*U. pertusa*.” Couceiro et al. (2011) concluded the Iberian Peninsula

“*U. pertusa*” was also related to those from California and likely conspecific with *U. australis*. The relationship of Baja California “*U. pertusa*” to Japanese *U. pertusa* and South Australian *U. australis* needs to be elucidated.

***Ulva* sect. *Enteromorpha* (Link in Nees)
Endlicher, 1843:19**

Ulva acanthophora (Kützinger) Hayden, Blomster, Maggs, P. C. Silva, Stanhope et Waaland, 2003:288

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca to Guaymas, SON. WC: Bahía San Luis Gonzaga to Bahía de La Paz, BCS. IS: Isla Estanque, ISG; Isla San Juan Nepomuceno, Isla Partida, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Bay of Islands, northeast coast of North Island, New Zealand.

REMARKS. Gulf of California specimens referred to *Ulva acanthophora* need to be genetically compared to New Zealand type locality material. Mora-Valdés and Riosmena-Rodríguez (2016) mistakenly stated Norris (2010) treated *Enteromorpha ramulosa* as a synonym of *U. acanthophora*. Only “*E. ramulosa* sensu Adams, 1994” and not *E. ramulosa* (J. E. Smith) Carmichael in W. J. Hooker (1833) was listed by (Norris, 2010:41). (The latter had been noted to be conspecific with *U. clathrata*; Norris, 2010:43.)

***Ulva clathrata* (Roth) C. Agardh, 1811:23**

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Laguna de Agua Brava, NAY. EC: Bahía Concepción to Punta Arena, BCS. IS: Isla Espíritu Santo and Isla La Partida, BCS; Isla de la Piedra, SIN.

TYPE LOCALITY. Fehmarn, SW Baltic Sea (Roth, 1806; type missing [Hayden et al., 2003:288, table 4]).

NEOTYPE LOCALITY. Landskoma, Baltic Oresund (neotype, an illustration of Bliding [1963: fig. 69a,b] was selected by Blomster et al., 1999; Hayden et al., 2003).

REMARKS. Brodie et al. (2007) noted reports of the European *U. clathrata* from the Pacific Ocean require reassessment. Gulf of California and European type materials should be molecularly compared to resolve their relationships and the identity of Gulf specimens.

***Ulva compressa* Linnaeus, 1753:1163**

GULF OF CALIFORNIA DISTRIBUTION. EC: Piedras del Burro, SON, to Puerto Vallarta, JAL. WC: Bahía San Francisco, BC, to Bahía de La Paz, BCS. IS: Isla Espíritu Santo and Isla La Partida, BCS.

TYPE LOCALITY. “Habitat in Europae mari & tectis maritimis” (Linnaeus, 1753:1163; probably Bognor, West Sussex, England, UK [Hayden et al., 2003:289]).

***Ulva flexuosa* Wulfen, 1803:1**

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal, SON, to Bahía de Banderas, JAL. WC: Bahía

Concepción to Bahía de La Paz, BCS. IS: Isla Espíritu Santo, BCS; Isla Larga, NAY.

TYPE LOCALITY. Duino, near Trieste, Adriatic Sea, Italy.

***Ulva flexuosa* subsp. *paradoxa* (C. Agardh) M. J. Wynne, 2005:107**

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agua Brava, NAY.

TYPE LOCALITY. Bangor, Gwynedd, Wales, UK (Berger et al., 2003).

SYNTYPE LOCALITIES. Bangor, Wales, and Brighton, England, UK (O’Kelly et al., 2010).

REMARKS. *Ulva flexuosa* subsp. *paradoxa* (= *Enteromorpha flexuosa* subsp. *paradoxa* (C. Agardh) Bliding, 1963) was reported in the southern Gulf from Nayarit as *Ulva paradoxa* C. Agardh (1817).

***Ulva intestinalis* Linnaeus, 1753:1163**

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Bahía de Banderas, JAL. WC: Punta San Felipe, BC, to Cabo Pulmo, BCS. IS: Isla Tiburón, ISG.

TYPE LOCALITY. “Woolwich, London, England?” (Hayden et al., 2003:289); “in Mari omni” (South and Skelton, 2003).

LECTOTYPE LOCALITY. “In ditches near Woolwich,” River Thames, London; locale, lectotype specimen, and illustration of Dillenius (1742: pl. 9, fig. 7, as “*Tremella marina tubulosa, intestinorum figura . . .*”) were selected by Blomster et al. (1998:332, fig. 49).

REMARKS. Mora-Valdés and Riosmena-Rodríguez (2016) mistakenly stated Pedroche et al. (2005:26) treated *U. intestinalis* as a synonym of *U. flexuosa* Wulfen (1803); they cited only the subspecific taxon “*E. [Enteromorpha] intestinalis* var. *tubulosa* Kützinger, 1845,” and not the species, *U. intestinalis* Linnaeus (1753). Also, one forma listed in the Gulf by Mora-Valdés and Riosmena-Rodríguez (2016), *E. intestinalis* f. *maxima* J. Agardh (1883), is a taxonomic synonym of *U. intestinalis*.

Enteromorpha marchantiae Setchell et N. L. Gardner (1924a; type locality: La Paz, Baja California Sur) was treated as a synonym of *U. intestinalis* by Dawson (1944, as *E. intestinalis*), Pedroche et al. (2005), and Norris (2010). However, some recognize *E. marchantiae* as a distinct species (e.g., Guiry and Guiry, 2015; Mora-Valdés and Riosmena-Rodríguez, 2016). Its generic placement, taxonomic status, and relationship to *U. intestinalis* need to be tested.

***Ulva linza* Linnaeus, 1753:1163**

GULF OF CALIFORNIA DISTRIBUTION. EC: Las Piedras del Burro to Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Faro de San Felipe, BC, to Bahía de La Paz, BCS.

TYPE LOCALITY. “In Oceano” (Linnaeus, 1753: 1163).

LECTOTYPE LOCALITY. Sheerness, Kent, England, UK (Hayden et al., 2003:289).

Ulva radiata (J. Agardh) Hayden, Blomster, Maggs, P. C. Silva, Stanhope et Waaland, 2003:290

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to NAY. WC: Bahía de Los Ángeles, BC, to Bahía de La Paz, BCS. IS: Isla Tiburón, ISG.

TYPE LOCALITY. Arctic Norway (Hayden et al. 2003:290, table 4).

REMARKS. Mora-Valdés and Riosmena-Rodríguez (2016) mistakenly stated *U. prolifera* was listed as a synonym of *U. radiata* by Norris (2010). Only “*E. [Enteromorpha] prolifera* sensu Setchell et N. L. Gardner, 1920, 1924, . . .” was cited, and it was noted not to be *Ulva prolifera* O. F. Müller (1778; Norris, 2010:48–49).

Uncertain Status and Record: *Enteromorpha? intestinalis* var. *clavata* (J. Agardh) Scagel, 1966:50

REMARKS. Listed in the Gulf of California as “*E. intestinalis* f. *clavata*” (Mora-Valdés and Riosmena-Rodríguez, 2016), its correct name is *E. intestinalis* var. *clavata* (J. Agardh) Scagel (Guiry and Guiry, 2015). Pedroche et al. (2005) noted that some have cited names of forms to “*U. intestinalis*” (e.g., Dawson, 1946, 1961c), but Setchell and Gardner (1920, as *U. intestinalis*) did not refer the La Paz specimen to a form. If *Enteromorpha intestinalis* var. *clavata* is recognized, the taxon probably belongs in *Ulva*, and its generic status is queried until molecular analysis of type materials is performed to verify its taxonomic placement.

Excluded Species: *Ulva intestinalis* f. *attenuata* (Ahlner) M. J. Wynne, 2014, in Cormaci et al., 2014:393

REMARKS. *Ulva intestinalis* f. *attenuata* was recorded in the Gulf by Mora-Valdés and Riosmena-Rodríguez (2016, as “*E. [Enteromorpha] intestinalis* f. *cylindracea*”), but with no specific Gulf locales. Both *E. intestinalis* f. *cylindracea* J. Agardh (1883) and *U. intestinalis* var. *cylindracea* (J. Agardh) M. J. Wynne (2005) are *nom. illeg.* (see Cormaci et al., 2014). Pedroche et al. (2005) earlier noted “*U. intestinalis* f. *cylindracea*” was misinterpreted by Dawson (1946) and is not in Gulf flora.

ULVELLACEAE SCHMIDLE, 1899:57

Entocladia Reinke, 1879:476

Entocladia polysiphoniae Setchell et N. L. Gardner, 1924a:718

GULF OF CALIFORNIA DISTRIBUTION. EC: El Desemboque de los Seris to Guaymas, SON. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. In cell wall of *Polysiphonia marchantiae* (now *Melanothamnus johnstonii*); Guaymas, Sonora, Gulf of California, Mexico.

Entocladia sp. A of Norris, 2010:23

GULF OF CALIFORNIA DISTRIBUTION. IS: west island (isla oeste), Islas de Los Gemelos, BC.

REMARKS. An endophyte, found in shallow subtidal *Cladophora* in the northern Gulf (Norris, 2010).

Epicladia Reinke, 1889:31

Epicladia condensata (Setchell et N. L. Gardner) J. N. Norris, 2010:25

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Libertad, SON. WC: Bahía San Francisquito, BC. IS: Isla San Esteban, ISG.

TYPE LOCALITY. In utricles of *Codium*; Bahía San Francisquito, Baja California, Gulf of California, Mexico.

Epicladia mexicana (Setchell et N. L. Gardner) J. N. Norris, 2010:26

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Endophytic in cell walls of *Chaetomorpha*; La Paz, Baja California Sur, Gulf of California, Mexico.

Ulvella P. Crouan et H. Crouan, 1859:288

Ulvella lens P. Crouan et H. Crouan, 1859:288

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Rade de Brest, Finistère, Atlantic coast of France.

Ulvella marchantiae (Setchell et N. L. Gardner) R. Nielsen, O’Kelly et Wysor, in Nielsen et al., 2013:51

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS. IS: Isla Coronado, BC.

TYPE LOCALITY. Epiphytic on *Laurencia*; La Paz, Baja California Sur, Gulf of California, Mexico.

REMARKS. A Gulf of California endemic originally described as *Pringsheimia marchantiae* Setchell et N. L. Gardner (1924a), *Ulvella marchantiae* has also been reported in the Gulf as *Entocladia marchantiae* (Setchell et N. L. Gardner) Cribb (1995; Norris, 2010).

Ulvella setchellii Dangeard, 1931: 317

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON; Playa Los Cerritos, SIN. IS: Bahía de Agua Dulce, Isla Tiburón, ISG; Isla María Magdalena, NAY.

SYNTYPE LOCALITIES. Three locales given by Dangeard (1931): on *Polysiphonia*, Roscoff, Finistère, France; on *Phyllophora*, Croisic, Loire Inférieure, France; and on *Laurencia*, Pacific Grove, California.

LECTOTYPE LOCALITY. Pacific Grove, Monterey County, central California, USA (Nielsen et al., 2013:52, selected lectotype illustration and an epitype).

Ulvella viridis (Reinke) R. Nielsen, O'Kelly et Wysor, in Nielsen et al., 2013:53

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Estero de Bacorehuis, Laguna de Agiabampo, SON; Playa Los Cerritos, SIN. WC: Bahía de La Paz to Bahía Balandra, BCS.

TYPE LOCALITY. Napoli (Naples), Golfo di Napoli, Campania, Mar Tirreno, Italy.

REMARKS. *Ulvella viridis* was previously reported in the Gulf of California as *Entocladia viridis* Reinke (1879; Norris, 2010).

**CLADOPHOROPHYCEAE C. HOEK, D. G. MANN
ET JAHNS, 1995:408, NOM. INVALID.**

CLADOPHORALES HAECKEL, 1894:302

REMARKS. Some phycologists place the Cladophorales within the class Ulvophyceae Mattox et Stewart (1984), but future studies are needed to resolve the class placement of the order (Rindi and Verbruggen, 2016).

CLADOPHORACEAE W. WILLE, IN WARMING, 1884:30

***Chaetomorpha* Kützting, 1845:203**

Chaetomorpha aerea (Dillwyn) Kützting, 1849:379

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Tepoca, SON, to Bahía Chacala, NAY. WC: Puertecitos to Bahía de Los Ángeles, BC. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Cromer, Norfolk, England, UK.

Chaetomorpha antennina (Bory de Saint-Vincent) Kützting, 1847:166

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON, to Bahía de Banderas, JAL. WC: Bahía San Luis Gonzaga, BC, to Cabeza Ballena, BCS. IS: Isla Turner, ISG; Isla San Ildefonso, BCS; Isla María Magdalena and Isla Larga, NAY.

TYPE LOCALITY. Réunion (Bourbon Island), Mascarene Islands (Mascarenhas Archipelago), Indian Ocean.

Chaetomorpha bangioides E. Y. Dawson, 1950b:149

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY, to Bahía de Banderas, JAL. WC: Puerto Escondido, BCS. IS: Isla Patos, ISG.

TYPE LOCALITY. Isla Patos (off N end of Isla Tiburón), Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Chaetomorpha clavata Kützting, 1847:166

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Los Cerritos, SIN, to Punta de Mita, NAY.

TYPE LOCALITY. West Indies (Silva et al., 1996).

Chaetomorpha javanica Kützting, 1849:773

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Java (Jawa), Greater Sunda Islands, Indonesia.

Chaetomorpha ligustica (Kützting) Kützting, 1849:376

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas to Laguna de Agiabampo, SON/SIN. IS: Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Golfo di Genova, northernmost Mar Ligure, Italy.

REMARKS. Previously recorded in the Gulf of California as *Lola lubrica* (Setchell et N. L. Gardner) A. Hamel et G. Hamel (1929), which is now considered a synonym of *C. ligustica* (Kützting) Kützting (e.g., Brodie et al., 2007).

Chaetomorpha linoides Kützting, 1847:167

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN. WC: Cabo San Lucas, BCS.

TYPE LOCALITY. Cumaná, state of Sucre, Venezuela.

Chaetomorpha linum (O. F. Müller) Kützting, 1845:204

GULF OF CALIFORNIA DISTRIBUTION. EC: Piedras de La Salina, SON, to Bahía de Banderas, JAL. WC: Puertecitos, BC, to Bahía de La Paz, BCS. IS: Isla Carmen, BCS.

SYNTYPE LOCALITIES. Nakskov Fjord and Rødby Fjord [both on island of Lolland], Denmark.

LECTOTYPE LOCALITY. Nakskov Fjord, Lolland [municipality], Region Sjælland, island of Lolland, south Denmark (Lipkin and Silva, 2002).

Chaetomorpha minima Collins et Hervey, 1917:41

GULF OF CALIFORNIA DISTRIBUTION. WC: San Juan de la Costa, Bahía de La Paz, BCS.

TYPE LOCALITY. "On fronds of *Codium*, *Cladophora* etc.; Bermuda" (Collins and Hervey, 1917:41).

Chaetomorpha pachynema (Montagne) Kützting, 1847:166

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Palmilla, BCS.

TYPE LOCALITY. "In littore; Islas Canarias" (Montagne, 1841:184); Canary Islands, Spain.

***Cladophora* Kützting, 1843:262**

Cladophora albida (Nees) Kützting, 1843:267

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON, to Puerto Vallarta, JAL. WC: Bahía de Los Ángeles, BC, to Cabo San Lucas, BCS.

TYPE LOCALITY. Isle of Selsey, southwestern England, UK.

Cladophora coelothrix Kützing, 1843:272

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa La Rumorosa, JAL.

TYPE LOCALITY. “Golf von Genua” (Kützing, 1843:272); Livorno, Province of Livorno, Ligurian Sea, west coast of Italy (Womersley, 1984).

Cladophora columbiana Collins, in Setchell and Gardner, 1903:226

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino to Guaymas, SON. WC: Bahía de La Paz to Bahía del Rincón, BCS. IS: Isla Espíritu Santo, Isla Partida, and Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. Port Renfrew, Vancouver Island, British Columbia, Canada.

REMARKS. Mora-Valdés and Riosmena-Rodríguez (2016) incorrectly stated that Norris (2010) had listed *C. columbiana* as a synonym of *C. trichotoma*, but actually Norris (2010:56) cited only “*C. trichotoma* sensu Collins 1909” and not *C. trichotoma* (C. Agardh) Kützing (1849; now *Acrocladus pellucidus* (Hudson) Boedeker, in Boedeker et al., 2016).

Cladophora flexuosa (O. F. Müller) Kützing, 1843:270

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL.

TYPE LOCALITY. Denmark.

REMARKS. Some consider *Cladophora flexuosa* and *C. sericea* (Hudson) Kützing to be synonyms (Hoek, 1963; John et al., 2004). Herein we follow others in maintaining them as separate species (Pedroche et al., 2005; Guiry and Guiry, 2014) until studies can resolve their relationship and the identity of Gulf specimens can be verified.

Cladophora glomerata (Linnaeus) Kützing, 1843:266

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Europe.

Cladophora glomerata var. *crassior* (C. Agardh) van den Hoek, 1963:163

GULF OF CALIFORNIA DISTRIBUTION. WC: Ensenada Ampe, BCS.

TYPE LOCALITY. Sussex, England, UK.

REMARKS. Reported in the southern Gulf as *Cladophora crispata* (Roth) Kützing, which is now a synonym of *C. glomerata* var. *crassior*.

Cladophora graminea Collins, 1909:19

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Punta Bufeo, BC, to Cabeza Ballena, BCS. IS: Isla Tiburón, ISG.

TYPE LOCALITY. Pacific Grove, Monterey County, central California, USA.

Cladophora hesperia Setchell et N. L. Gardner, 1924a:713

GULF OF CALIFORNIA DISTRIBUTION. EC: Piedras de La Salina, SON, to Mazatlán, SIN. WC: Faro de San Felipe, BC, to Cabo San Lucas, BCS. IS: Bahía San Gabriel, Isla Espíritu Santo, and Isla Partida, BCS.

TYPE LOCALITY. “Muddy habitat, at the southern extremity of Lower California” (Setchell and Gardner, 1924a:714); “Distrito de Cabo San Lucas” (Pedroche et al., 2005:44), Baja California Sur, Gulf of California, Mexico.

Cladophora laetevirens (Dillwyn) Kützing, 1843:267

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Bahía de Banderas, JAL.

TYPE LOCALITY. Swansea, Glamorgan, Wales, UK.

Cladophora lehmanniana (Lindenberg) Kützing, 1843:268

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Francisco, BCS.

TYPE LOCALITY. Helgoland (Heligoland), small archipelago in the North Sea, Germany.

Cladophora liebethuthii Grunow, in Piccone, 1884a:53

GULF OF CALIFORNIA DISTRIBUTION. EC: Lo de Marcos and Playa San Francisco, NAY.

TYPE LOCALITY. Gran Canaria, Islas Canarias (Canary Islands), Spain.

Cladophora macdougallii M. Howe, 1911:491

GULF OF CALIFORNIA DISTRIBUTION. WC: El Machorro, SON. EC: San Felipe to Puertecitos, BC.

TYPE LOCALITY. Bahía San Felipe, Baja California, Gulf of California, Mexico.

REMARKS. An endemic species, apparently restricted in distribution to the Upper Gulf of California.

Cladophora microcladioides Collins, 1909:17

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Bahía de Banderas, JAL. WC: Playa Santa Teresa, BC, to Cabeza Ballena, BCS. IS: Isla Tiburón, ISG; Isla Espíritu Santo and Isla Partida, BCS.

TYPE LOCALITY. San Pedro, Los Angeles County, southern California, USA.

Cladophora prolifera (Roth) Kützing, 1843:271

GULF OF CALIFORNIA DISTRIBUTION. EC: El Tornillal, SON, to Puerto Vallarta, JAL. WC: Campo Hawaii (N of San Felipe), BC, to Cabo Pulmo, BCS.

TYPE LOCALITY. “In mare Corsicam” (Roth, 1797:183). Type from Mediterranean lost.

NEOTYPE LOCALITY. Miramare, near Trieste, Adriatic Sea, Italy (Hoek, 1963:208).

Cladophora rivularis (Linnaeus) van den Hoek, 1963:113

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Europe.

REMARKS. Reported in the southern Gulf as "*Cladophora insignis*" (Huerta-Múzquiz and Mendoza-González, 1985). Although *C. rivularis* has been reported in brackish water (Kamenarska et al., 2004), it is generally considered to be a fresh-water species (Hoek and Chihara, 2000; Boedeker et al., 2016).

Cladophora sericea (Hudson) Kützing, 1843:264

GULF OF CALIFORNIA DISTRIBUTION. EC: Em-palme, Guaymas, SON; Mazatlán, SIN, to Playa de Guayabitos, NAY. EC: Punta Arena to Cabo Pulmo, BCS.

SYNTYPE LOCALITIES. "Coast near Sheerness, and 'Rivus Novus,' near London, are both mentioned by Dillenius (1741: 31)" (Hoek, 1963:77).

LECTOTYPE LOCALITY. Isle of Sheppey, Kent, Eng-land, UK.

Cladophora stimpsonii Harvey, 1860:334

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Hakodate Bay, Oshima Subprefecture, Hokkaido [island], Japan.

Cladophora tiburonensis E. Y. Dawson, 1944:211

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN. IS: Isla Turner, ISG.

TYPE LOCALITY. Isla Turner, off southeast end of Isla Tiburón, Sonora, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Cladophora vagabunda (Linnaeus) van den Hoek, 1963:144

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda to Puerto Peñasco, SON; Playa Guayabitos, NAY, to Bahía de Banderas, JAL.

LECTOTYPE LOCALITY. Salt marsh; on island of Selsey, Sussex, England, UK.

***Rhizoclonium* Kützing, 1843:261**

Rhizoclonium hieroglyphicum (C. Agardh) Kützing, 1845:206

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. "Carlsbad in udis speluncis rupium" (Agardh, 1827:636), Czech Republic.

REMARKS. Pedroche et al. (2005) questioned its record in the southern Gulf, and its presence needs to be verified.

Rhizoclonium lubricum Setchell et Gardner in Gardner, 1919:492

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Laguna de Agiabampo, SON/SIN. IS: Isla Partida and Bahía San Gabriel, Isla Espíritu Santo, BCS.

SYNTYPE LOCALITIES. Three localities given by Gardner (1919): Roche Harbor, NW San Juan Island, San Juan County, Washington, USA; and Berkeley and Alameda (both Alameda County), California, USA.

LECTOTYPE LOCALITY. Oakland, Alameda County, northern California, USA (Abbott and Hollenberg, 1976).

REMARKS. Reported in the Gulf as *Lola lubrica* (Setchell et N. L. Gardner) A. Hamel et Hamel (1929; Dawson, 1944). Pedroche et al. (2005) have questioned its generic place-ment. Norris (2010) later referred some Gulf *Rhizoclonium lu-bricum* to *R. tortuosum*. However, the latter two are considered to be distinct taxa (Guiry and Guiry, 2014; Mora-Valdés and Riosmena-Rodríguez, 2016). The taxonomic status of *R. lubri-cum* (Silva, 1979) and its identification in the Gulf are in need of clarification (Norris, 2010).

Rhizoclonium riparium (Roth) Harvey, 1849:238

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Punta de Mita, NAY. WC: Puertecitos, BC, to Punta Arena, BCS. IS: Isla Espíritu Santo, BCS.

TYPE LOCALITY. Norderney Island, East Frisian Is-lands, Wadden Sea, Germany.

REMARKS. *Rhizoclonium riparium* has been recog-nized to be a "species-complex" that contains several cryptic, misidentified, or unrecognized species (Brodie et al., 2007).

Rhizoclonium riparium var. *implexum* (Dillwyn) Rosenvinge, 1894:915

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Bahía de Banderas, JAL. EC: Puerto Escon-dido to Punta Arena, BCS.

TYPE LOCALITY. Bantry, County Cork, Ireland.

REMARKS. Pedroche et al. (2005) and Norris (2010:66) recognized the variety, *R. riparium* var. *implexum*, and did not treat it as a synonym of *R. implexum* as incorrectly stated by Mora-Valdés and Riosmena-Rodríguez (2016).

Rhizoclonium tortuosum (Dillwyn) Kützing, 1845:205

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Laguna de Agiabampo, SON/SIN. IS: Bahía San Gabriel, Isla Espíritu Santo, and Isla Partida, BCS.

TYPE LOCALITY. Not designated and apparently lost (Chapman, 1939).

LECTOTYPE LOCALITY. Swansea, Glamorgan, Wales, UK (Chapman, 1939; Blair, 1983).

REMARKS. *Rhizoclonium tortuosum* is tentatively recognized in the Gulf until its relationship with type locality material can be elucidated (Norris, 2010). Silva et al. (1996) and Pedroche et al. (2005) have discussed its complex nomenclature and taxonomy.

***Willella* Børgesen, 1930:155**

Willella brachyclados (Montagne) M. J. Wynne, 2016:1

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Río Mayo, SON.

TYPE LOCALITY. Havana, Cuba.

REMARKS. *Cladophora montagneana* Kützing (1849) was recently shown to belong in *Willella* by Boedeker et al.

(2016, as *W. montagneana* (Kützing) Boedeker); a taxon found *nom. illeg.* and subsequently treated as *W. brachyclados* (Montagne) M. J. Wynne (2016).

**SIPHONOCLODALES (BLACKMAN ET TANSLEY)
OLTMANN, 1904:134, SENSU STRICTO**

BOODLEACEAE BØRGESSEN, 1925:19

***Boodlea* (Dickie) G. Murray et De Toni,
in Murray, 1889:245**

Boodlea composita (Harvey) F. Brand, 1904:187

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. WC: Bahía Concepción, BCS. IS: Isla María Magdalena, NAY.

TYPE LOCALITY. Mauritius, Republic of Mauritius, Mascarene Islands, Indian Ocean.

***Cladophoropsis* Børgesen, 1905:288**

Cladophoropsis gracillima E. Y. Dawson, 1950b:149

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Calerita to Punta Palmilla, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Punta Palmilla, Baja California Sur, Gulf of California, Mexico.

Cladophoropsis macromeres W. R. Taylor, 1928:64

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON.

TYPE LOCALITY. Fort Jefferson, Garden Key, Dry Tortugas (Dry Tortugas National Park), Monroe County, Gulf of Mexico, Florida, USA.

REMARKS. The northern Gulf record of Mendoza-González and Mateo-Cid (1986) is the only known report of *C. macromeres* outside of the western Atlantic (Pedroche et al., 2005).

Cladophoropsis membranacea (Hofman Bang ex C. Agardh)
Børgesen, 1905:289

GULF OF CALIFORNIA DISTRIBUTION. WC: Ensenada Ampe, BCS.

TYPE LOCALITY. Saint Croix, U.S. Virgin Islands, Leeward Islands, Caribbean Sea.

***Phyllodictyon* J. E. Gray, 1866:70**

Phyllodictyon anastomosans (Harvey) Kraft et M. J. Wynne,
1996:139

GULF OF CALIFORNIA DISTRIBUTION. WC: Playa de Guayabitos to Playa Las Peñas, NAY. WC: Bahía de La Paz to Punta Arena, BCS.

TYPE LOCALITY. Fremantle, Western Australia, Australia.

Phyllodictyon pulcherrimum J. E. Gray, 1866:70

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Concepción, BCS.

TYPE LOCALITY. Gulf of Mexico.

Phyllodictyon robustum (Setchell et N. L. Gardner) Leliaert et
Wysor, in Leliaert et al., 2008:230

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Gorda, SON, to Bahía de Banderas, JAL. WC: El Machorro, BC, to Cabo Pulmo, BCS. IS: Isla Alcatraz and Isla San Pedro Nolasco, SON; Isla Tortuga and Isla San Ildefonso, BCS.

TYPE LOCALITY. On upper intertidal rocks; Isla Tortuga (off Puerto Santa Rosalía), Baja California Sur, Gulf of California, Mexico.

***Struvea* Sonder, 1845:49**

Struvea sp. of Huerta-Múzquiz and Mendoza-Gonzalez, 1985

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS.

SIPHONOCLODACEAE F. SCHMITZ, 1879:20

***Dictyosphaeria* Decaisne
ex Endlicher, 1843:18**

Dictyosphaeria australis Setchell, 1926:79

GULF OF CALIFORNIA DISTRIBUTION. WC: Punta Palmilla to Cabeza Ballena, BCS.

TYPE LOCALITY. Arue Reef, Tahiti, French Polynesia.

Dictyosphaeria cavernosa (Forsskål) Børgesen, 1932:2

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to Cabo Pulmo, BCS.

SYNTYPE LOCALITIES. Two locales: Gomfodae (Al-Qunfudhah), Saudi Arabia, and Mokha, Yemen.

LECTOTYPE LOCALITY. Mokha, Yemen (Leliaert and Coppejans, 2004).

Dictyosphaeria versluysii Weber-van Bosse, 1905:144

GULF OF CALIFORNIA DISTRIBUTION. WC: Calerita, Bahía de La Paz, BCS. IS: Bahía San Gabriel, Isla Espíritu Santo, and Isla Partida, BCS.

SYNTYPE LOCALITIES. “Plusieurs récifs dans l’Archipel Malaisien” (Weber-van Bosse, 1905:144) [many reefs in the Malay Archipelago].

***Ernodesmis* Børgesen, 1912:259**

Ernodesmis verticillata (Kützing) Børgesen, 1912:259

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON. WC: Bahía Concepción to Cabeza Ballena, BCS. IS: Isla Cholla, Isla Partida, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. St. Croix, U.S. Virgin Islands, Leeward Islands, Caribbean Sea.

VALONIACEAE KÜTZING, 1849:507***Valonia* C. Agardh, 1823:428***Valonia macrophysa* Kützing, 1843:307

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to Calerita, BCS.

TYPE LOCALITY. Leesina [Hvar Island], Adriatic Sea, Croatia.

Valoniopsis* Børgesen, 1934:10Valoniopsis hancockii* E. Y. Dawson, 1944:207

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. Rocky shore, in low intertidal; Puerto Refugio, Isla Ángel de la Guarda, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

Valoniopsis pachynema (G. Martens) Børgesen, 1934:10

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco to Guaymas, SON. WC: Puertecitos, BC, to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Tiburón, and Isla Turner, ISG; Isla Espíritu Santo, BCS; Isla Isabel, NAY.

SYNTYPE LOCALITIES. Benkulen (Bengkulu) and Pulau Tikus (near Bengkulu), Sumatra, Indonesia.

BRYOPSIDOPHYCEAE BESSEY, 1907:287**BRYOPSIDALES J. H. SCHAFFNER, 1922:133****BRYOPSIDACEAE BORY DE SAINT-VINCENT, 1829:203*****Bryopsis* J. V. Lamouroux, 1809b:333***Bryopsis corticulans* Setchell, in Collins, Holden and Setchell, 1899: P.B.-A. Exsiccate no. 626

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Kino, SON, to Bahía de Banderas, JAL.

SYNTYPE LOCALITIES. Carmel Bay and Pacific Grove, California.

LECTOTYPE LOCALITY. Pacific Grove, Monterey County, central California, USA (Smith, 1944).

Bryopsis galapagensis W. R. Taylor, 1945:60

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Bahía de Banderas, JAL. IS: Isla Larga, NAY.

TYPE LOCALITY. In intertidal pools; Wolf Island (Wenman Island), Galápagos Islands, Ecuador.

Bryopsis hypnoides J. V. Lamouroux, 1809b:333

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Punta

San Felipe, BC, to Cabo Pulmo, BCS. IS: Isla Partida and Isla Espíritu Santo, BCS; Isla de la Piedra, SIN; Isla Larga, NAY.

TYPE LOCALITY. “Cerca Cette” (Lamouroux, 1809b:333) [Sète, Hérault], Mediterranean coast of France.

Bryopsis muscosa J. V. Lamouroux, 1809b:333

GULF OF CALIFORNIA DISTRIBUTION. WC: Puerto Escondido to El Solitario, Bahía Agua Verde, BCS. IS: Isla Tortuga, Isla Cholla, and Isla San Ildefonso, BCS.

TYPE LOCALITY. Mediterranean coast of France.

Bryopsis pennata J. V. Lamouroux, 1809b:333

GULF OF CALIFORNIA DISTRIBUTION. EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Bahía de los Ángeles, BC, to Cabeza Ballena, BCS. IS: Isla Tiburón and Isla Turner, ISG.

TYPE LOCALITY. Antilles, West Indies [archipelago in Caribbean Sea composed of the islands of the Greater Antilles and the Lesser Antilles].

Bryopsis pennata var. *minor* J. Agardh, 1887:23

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Chueca, SON, to Puerto Vallarta, JAL. WC: Bahía de La Paz to Cabo Pulmo, BCS. IS: Isla Espíritu Santo and Isla Partida, BCS.

TYPE LOCALITY. San Agustín, Oaxaca, Mexico.

Bryopsis salvadoreana E. Y. Dawson, 1961b:405

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Rasa, ISG.

TYPE LOCALITY. Arrecife de Sacate, off Punta Chiriquín, Golfo de Fonseca, El Salvador.

DERBESIAEAE HAUCK, 1884:421***Derbesia* Solier, 1846:452***Derbesia hollenbergii* W. R. Taylor, 1945:75

GULF OF CALIFORNIA DISTRIBUTION. WC: El Solitario, Bahía Agua Verde, BCS. IS: Isla San Pedro Nolasco (?), SON; Isla Cholla and Isla Carmen, BCS.

TYPE LOCALITY. Isla Floreana (Charles Island; Isla Santa María), Galápagos Islands, Ecuador.

Derbesia marina (Lyngbye) Solier, 1846:453GULF OF CALIFORNIA DISTRIBUTION. *Derbesia marina* (sporophyte)—EC: Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: Punta San Felipe, BC, to San José del Cabo, BCS. IS: Isla San Luis Gonzaga, BC; Isla Larga, NAY.*Halicystis*-phase (gametophyte of *Derbesia*)—EC: Bahía Concepción, BCS.TYPE LOCALITY. *Derbesia marina*: Kvívík (Kvívig), [Strømø], Streymoy [island], Faroe (Faeroe) Islands, Denmark.

REMARKS. Record of *Halicystis*-phase in the southern Gulf is presumed to be a vesicular gametangium of *Derbesia marina* (Mateo-Cid et al., 1993); its life history should be investigated.

Derbesia sp. A of Norris, 2010:840

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Pelicano, Puerto Peñasco, SON.

Derbesia sp. of Rocha-Ramírez and Siqueiros-Beltrones, 1991:18

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía Balandra, BCS.

Derbesia turbinata M. Howe et Hoyt, 1916:106

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla Las Ánimas, ISG.

TYPE LOCALITY. Beaufort, Carteret County, North Carolina, USA.

REMARKS. A western Atlantic species, its presence in the northern Gulf needs to be verified (Pedroche et al., 2005).

***Halicystis*-phase**

Halicystis ovalis of Norris and Bucher, 1976:3

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Luis Gonzaga, BC.

REMARKS. Gulf of California specimens are epiphytic on *Amphiroa*; it is uncertain if these vesicles are gametophytes or sporophytes (Norris, 2010). Life history studies and molecular analyses of the Isla San Luis Gonzaga *Halicystis* will help clarify its taxonomic identity and whether it is distinct or perhaps a life history phase of *Derbesia* or of another genus.

CODIACEAE KÜTZING, 1843:302, 308

***Codium* Stackhouse, 1797:xvi, xxiv**

Codium amplivesiculatum Setchell et N. L. Gardner, 1924a:709

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta Chueca, SON, to Bahía de Banderas, JAL. WC: Bahía de Los Ángeles, BC, to Punta Arena, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Estanque, Isla Rasa, and Isla San Esteban, ISG; Isla Monserrate, Isla Carmen, Isla Santa Catalina, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Floating; “near south end of [Isla] Ángel de la Guarda, Gulf of California” (Setchell and Gardner, 1924a:710); probably near Isla Estanque, Baja California, Islas Grandes (Islas de la Cintura), Gulf of California, Mexico.

REMARKS. Mora-Valdés and Riosmena-Rodríguez (2016) mistakenly state *C. decorticatum*, *C. dichotomum*, and *C. fernandezianum* were listed as synonyms of *C. amplivesiculatum* by Pedroche et al. (2005) and Norris (2010). Pedroche et al. (2002, 2005) did note that these were misapplied names

(misidentifications), and Norris (2010:87) cited only “*C. decorticatum* sensu Howe, 1911, *C. dichotomum* sensu Taylor, 1945, and *C. fernandezianum* sensu Taylor, 1945,” noting that the species *C. decorticatum* (Woodward) M. Howe (1911), *C. dichotomum* (Hudson) S. F. Gray (1821), and *C. fernandezianum* Setchell (1937) were distinct taxa.

Codium brandegeei Setchell et N. L. Gardner, 1924a:712

GULF OF CALIFORNIA DISTRIBUTION. Punta Pelicano, Puerto Peñasco, SON, to Bahía de Banderas, JAL. WC: San Felipe, BC, to Bahía de La Paz, BCS. IS: Isla San Jorge and Isla Alcatraz, SON; Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Isla Tiburón, and Isla Turner, ISG; Isla Carmen, Isla San Diego, Isla San José, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. “Habitat unknown, probably at La Paz (?)” (locale questioned by Setchell and Gardner, 1924a:712), Baja California Sur, Gulf of California, Mexico.

REMARKS. Mora-Valdés and Riosmena-Rodríguez (2016) mistakenly stated that *Codium tomentosum* was treated as a synonym of *C. brandegeei* by Norris (2010). Only “*C. tomentosum* sensu Mendoza-González and Mateo-Cid, 1986” was referred to *C. brandegeei* and not the species *C. tomentosum* Stackhouse, 1797 (Norris, 2010:90). Pedroche et al. (2005:71) earlier noted “*C. tomentosum*” was a misapplied name (misidentified) in the Gulf of California and Pacific Mexico.

Codium giraffa P. C. Silva, 1979:264

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. IS: Isla Larga, NAY.

TYPE LOCALITY. Papanao, Guerrero, Mexico.

Codium isabelae W. R. Taylor, 1945:70

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. IS: Isla de Venados, SIN; Isla Larga, NAY.

TYPE LOCALITY. On intertidal rock; near entrance to Tagus Cove, Isla Isabela (Isla Albemarle), Galápagos Islands, Ecuador.

REMARKS. Pedroche et al. (2005:74) did not list *C. isthomocladum* as a synonym of *C. isabelae* as stated by Mora-Valdés and Riosmena-Rodríguez (2016:216) but noted *C. isthomocladum* was one of several misapplied names and was not the species *C. isthomocladum* Vickers, 1905 (see Pedroche et al., 2002).

Codium picturatum Pedroche et P. C. Silva, 1996:2

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Chamela, JAL. WC: Puerto Escondido to Cabo Pulmo, BCS. IS: Isla Carmen, Isla San Ildefonso, Isla Partida, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Playa La Audiencia (near Manzanillo), Colima, Mexico.

Codium simulans Setchell et N. L. Gardner, 1924a:706

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, SON, to Bahía de Banderas,

JAL. WC: Punta San Felipe, BC, to Cabeza Ballena, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, Isla Patos, Isla Estanque, Isla San Esteban, and Isla Rasa, ISG; Isla Coronado, BC; Isla San Pedro Nolasco, SON; Isla Tortuga, Isla Monserrate, Isla San Marcos, Isla San Ildefonso, Isla Danzante, Isla Santa Catalina, Isla San José, Isla Carmen, Isla San Francisco, Isla Partida, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Isla San Marcos, Baja California Sur, Gulf of California, Mexico.

Codium sp. A

GULF OF CALIFORNIA DISTRIBUTION. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG.

REMARKS. Norris (2010:92, fig. 44) observed that the exceptionally large *Codium* sp. A, with broad flattened axes, was somewhat similar to the “*C. cuneatum*-form” of *C. simulans*. Its taxonomic status and phylogenetic relationship to other species of *Codium* require further study.

Uncertain Record: *Codium fragile* (Suringar) Hariot, 1889:32

REMARKS. Pedroche et al. (2005) noted Gulf records of Martínez-Lozano et al. (1991) and Casas-Valdéz et al. (1997) were not representative of *C. fragile* (now *C. fragile* subsp. *californicum* Maggs et J. Kelly, in Brodie et al., 2007), and its presence in the Gulf of California needs to be verified.

Uncertain Record: *Codium setchellii* N. L. Gardner, 1919:489

REMARKS. Southern Gulf records of “*C. setchellii*” are probably not this species, and most are referable to *C. picturatum* (Pedroche et al., 2005; Norris, 2010).

Excluded Species: *Codium elongatum* (Turner) C. Agardh, 1823:454

REMARKS. Mora-Valdés and Riosmena-Rodríguez (2016) noted *C. elongatum* was considered conspecific with *C. decorticatum* (Woodward) M. Howe (1911) by Silva et al. (1996). Pedroche et al. (2005:72) stated most of Gulf specimens of “*C. decorticatum*” were misidentified and probably were *C. giraffa* or *C. amplivesiculatum*.

Excluded Species: *Codium fernandezianum* Setchell, 1937:592

REMARKS. Although noting that *C. fernandezianum* was not recorded in the Gulf, Mora-Valdés and Riosmena-Rodríguez (2016) mistakenly stated it was treated as a synonym of *C. amplivesiculatum* by Norris (2010). However, only some specimens identified as “*C. fernandezianum* sensu Taylor, 1945” were referred to *C. amplivesiculatum* by Pedroche et al. (2002) and Norris (2010), and *C. fernandezianum* Setchell (1937) was not treated as being conspecific with *C. amplivesiculatum* Setchell et N. L. Gardner. *Codium fernandezianum* Setchell (1937) is a distinct species.

Geppella Børgesen, 1940:55

REMARKS. The generitype, *Geppella mortensenii* Børgesen (1940), was transferred to *Rhipiliopsis* by Farghaly

and Denizot (1979, as *R. mortensenii* Farghaly et Denizot), thus leaving the generic placement of the remaining species, including the southern Gulf *G. decussata*, uncertain.

Geppella? decussata E. Y. Dawson, 1959a:14

GULF OF CALIFORNIA DISTRIBUTION. IS: Isla San Francisco, BCS.

TYPE LOCALITY. Off southeast Isla San Francisco (off southern end of Isla San José), Baja California Sur, Gulf of California, Mexico.

REMARKS. A Gulf of California endemic that is known only from the type, the generic placement of *G.? decussata* is in need of elucidation (e.g., Norris, 2010; see also Remarks above under *Geppella*).

CAULERPACEAE KÜTZING, 1843:302, 307

***Caulerpa* J. V. Lamouroux, 1809b:332**

Caulerpa antoensis Yamada, 1940:100

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to estero Balandra, BCS. IS: Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. Ant Atoll, off west coast of Pohnpei (Ponape), Senyavin Islands, Federated States of Micronesia, central Pacific Ocean.

REMARKS. Originally reported in the southern Gulf as *C. arenicola* W. R. Taylor (1950), a species that is now considered conspecific with *C. antoensis* (Abbott and Huisman, 2004).

Caulerpa chemnitzia (Esper) J. V. Lamouroux, 1809b:332

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. WC: Bahía Agua Verde to Cabeza Ballena, BCS. IS: Isla Monserrate, Isla San Francisco, Isla Partida, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS; Isla Larga, NAY.

TYPE LOCALITY. “Aus den Malabarische Küsten” (Esper, 1800:167); Malabar Coast, Arabian Sea, southwest coast of India, northern Indian Ocean (Belton et al., 2014).

REMARKS. Three taxa reported in the Gulf were found to be conspecific with *C. chemnitzia* by Fernández-García et al. (2016): *C. peltata* J. V. Lamouroux (1809b; =*C. racemosa* var. *peltata* (J. V. Lamouroux) Eubank in T. A. Stephenson, 1944), *C. racemosa* var. *turbinata* (J. Agardh) Eubank (1946; Belton et al., 2014), and *C. vanbosseae* Setchell et N. L. Gardner (1924a). Fernández-García et al. (2016) also proposed use of the term “ecad” to recognize different morphologies within *C. chemnitzia*: “*C. chemnitzia* ecad *laetevirens*” with clavate fronds, “*C. chemnitzia* ecad *peltata*” with peltate or disklike fronds, and “*C. chemnitzia* ecad *intermedia*,” a transitional form between “ecad *peltata*” and “ecad *laetevirens*.” Ecad is not a valid taxon name (ICN, McNeill et al., 2012). However, the taxon variety (*varietas*) has been employed in botany in several senses; for example, a variety is morphologically distinct and may be geographical, ecological, cytological,

or combinations of these (e.g., Davis and Heywood, 1963; ICN, McNeill et al., 2012).

There are four varieties of *Caulerpa chemnitzia* now recorded in the Gulf of California, including three herein with proposed new combinations in acknowledgment of the studies of Dra. Cindy Fernández-García (Universidad de Costa Rica) and the late Dr. Rafael Riosmena-Rodríguez (Univeridad Autónoma de Baja California Sur), and their colleagues.

Caulerpa chemnitzia* var. *laetevirens* (Montagne) Fernández-García et Riosmena-Rodríguez, *comb. nov.

BASIONYM. *Caulerpa laetevirens* Montagne, 1842a:13.

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL.

TYPE LOCALITY. Toud Island (Warrior Inlet), Torres Strait, between Queensland, Australia, and Papua New Guinea.

***Caulerpa chemnitzia* var. *peltata* (J. V. Lamouroux) Zanardini, 1858:287**

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. WC: Bahía de La Paz to Cabo Pulmo, BCS. IS: Isla San Francisco, Isla Partida, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS; Isla Larga, NAY.

TYPE LOCALITY. Antilles, West Indies [archipelago in Caribbean Sea composed of the islands of the Greater Antilles and the Lesser Antilles].

Caulerpa chemnitzia* var. *turbinata* (J. Agardh) Fernández-García et Riosmena-Rodríguez, *comb. nov.

BASIONYM. *Caulerpa clavifera* var. *turbinata* J. Agardh, 1837:173.

GULF OF CALIFORNIA DISTRIBUTION. EC: Mazatlán, SIN, to Bahía de Banderas, JAL. WC: Bahía Agua Verde to Cabeza Ballena, BCS. IS: Isla Monserrate, Isla San Francisco, Isla Partida, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS; Isla Larga, NAY.

TYPE LOCALITY. Near Tor, Sinai Peninsula, Egypt.

Caulerpa chemnitzia* var. *vanbosseae* (Setchell et N. L. Gardner) Fernández-García et Riosmena-Rodríguez, *comb. nov.

BASIONYM. *Caulerpa vanbosseae* Setchell et N. L. Gardner, 1924a:704.

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Tucson, Puerto Peñasco, to Ensenada de San Francisco, SON. WC: Bahía Concepción to Bahía de La Paz, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG; Isla Tortuga, Isla San Ildefonso, Isla Cholla, Isla San José, Isla Partida, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. “Habitat unknown; vicinity of La Paz” (Setchell and Gardner, 1924a), Baja California Sur, Gulf of California, Mexico.

REMARKS. Originally described from the southern Gulf, *Caulerpa vanbosseae* was treated as synonym of *C. chemnitzia* by Fernández-García et al. (2016). *Caulerpa chemnitzia* var. *vanbosseae* has also been reported along Pacific coast of Baja

California Sur (Pedroche et al., 2005; Norris, 2010, as *C. vanbosseae*). In the upper Gulf, its intertidal habitat in Puerto Peñasco is ecologically different from the tropical habitat of La Paz (type locality) in the southern Gulf. Molecular comparisons of type locality *C. vanbosseae* to those of the upper Gulf would test their phylogenetic relationship (see also Remarks under *C. chemnitzia*).

***Caulerpa cupressoides* (H. West ex Vahl) C. Agardh, 1817:xxiii**

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Los Cerritos, SIN, to Playa de Guayabitos and Playa Las Peñas, NAY.

TYPE LOCALITY. St. Croix, U.S. Virgin Islands, Leeward Islands, Caribbean Sea.

REMARKS. “*Caulerpa mexicana*” as cited by Pedroche et al. (2005:64) on the basis of records from Mazatlán (Carballo et al., 2002) and tropical Pacific Mexico (González-González, 1993) were both found to be *C. cupressoides* (non *C. mexicana* Sonder ex Kützing, 1849) by Fernández-García et al. (2016).

***Caulerpa cupressoides* var. *lycopodium* Weber-van Bosse, 1898:335, 336**

GULF OF CALIFORNIA DISTRIBUTION. EC: Sayulita, NAY, to Bahía de Banderas, JAL.

TYPE LOCALITY. Guadeloupe (Weber-van Bosse, 1898), Leeward Islands, Lesser Antilles, Caribbean Sea.

REMARKS. Silva et al. (1996) noted the intended basionym, *C. lycopodium* J. Agardh (1847), as a later homonym of *C. lycopodium* C. Agardh (1817) is a *nom. illeg.* and treated *C. cupressoides* var. *lycopodium* Weber-van Bosse (1898) as a *nom. nov.* (see also Pedroche et al., 2005).

***Caulerpa mexicana* f. *pectinata* (Kützing) W. R. Taylor, 1960:141**

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya to Playa Estación, Puerto Peñasco, SON. WC: Bahía de Los Ángeles, BC. IS: Canal Mejía (channel between Isla Mejía and Isla División), NW side of Puerto Refugio, Isla Ángel de la Guarda, ISG.

TYPE LOCALITY. La Guaira, Vargas State, Venezuela.

***Caulerpa racemosa* (Forsskål) J. Agardh, 1873:35**

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Bahía de Banderas, JAL. WC: Bahía de La Paz to Arrecife de Cabo Pulmo, BCS. IS: Isla Partida and Bahía San Gabriel, Isla Espíritu Santo, BCS.

TYPE LOCALITY. Suez, Gulf of Suez, Egypt.

REMARKS. Belton et al. (2014) found at least 11 distinct species were in the *C. racemosa-peltata* complex. Since none of their specimens from its type locality matched the type of *C. racemosa*, Belton et al. (2014) suggested that until topotype specimens can be located to resolve its taxonomic status, *C. racemosa* should be recognized on the basis of specimens closely resembling the type specimen from other locales. They also noted

Papenfuss and Egerod (1957) were likely correct in considering *C. racemosa* var. *uvifera* (C. Agardh) J. Agardh (1873) as a synonymy of *C. racemosa*; it has been treated as such in the Gulf of California (Pedroche et al., 2005).

Caulerpa racemosa var. *macrophysa* (Sonder ex Kützing) W. R. Taylor, 1928:101

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL. WC: Bahía de La Paz, BCS.

TYPE LOCALITY. Central America, Eastern Pacific (Verlaque et al., 2003).

REMARKS. Fernández-García et al. (2016) treated *C. racemosa* var. *macrophysa* as a synonym of *C. racemosa*, noting its distribution is apparently restricted to the southern region of the eastern tropical Pacific. Although Belton et al. (2014) found no differences between specimens they identified as *C. racemosa* var. *macrophysa* and *C. racemosa* var. *racemosa*, they noted comparative testing of type locality *Chauvinia macrophysa* Sonder ex Kützing (1857) was necessary before the synonymy could be accepted.

Caulerpa sertularioides (S. G. Gmelin) M. Howe, 1905:576

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía San Carlos, SON, to Playa de Guayabitos and Playa Las Peñas, NAY. WC: Bahía Concepción to Punta Los Frailes, BCS. IS: Isla Monserrate, Isla Partida, and Isla Espíritu Santo, BCS.

TYPE LOCALITY. “In coralliis americanis” (Gmelin, 1768); possibly “tropical Atlantic America” (Hodgson et al., 2004).

Caulerpa sertularioides f. *brevipes* (J. Agardh) Svedelius, 1906:114

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN.

SYNTYPE LOCALITIES. West Indies [Caribbean Sea], Pacific Ocean, Sri Lanka [Indian Ocean], and Red Sea.

REMARKS. Fernández-García et al. (2012, 2016) suggested two tropical eastern Pacific taxa, *C. sertularioides* f. *brevipes* and *C. sertularioides* f. *longiseta*, were possibly morphological adaptations to variable substrata and/or depths.

Caulerpa sertularioides f. *longiseta* (Bory de Saint-Vincent)

Svedelius, 1906:114

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz, BCS. IS: Isla Partida and Isla Espíritu Santo, BCS.

TYPE LOCALITY. Not specified (Silva et al., 1996).

REMARKS. See Remarks above under *C. sertularioides* f. *brevipes*.

Uncertain Record: *Caulerpa fastigiata* Montagne, 1837:353

REMARKS. Recorded in the southern Gulf from Bahía Concepción (Riosmena-Rodríguez et al., 1998), its presence in the Gulf needs to be verified.

Uncertain Record: *Caulerpa mexicana* Sonder ex Kützing, 1849:496

REMARKS. Belton et al. (2014) discovered several distinct genetic species that have been misidentified as “*C.*

mexicana.” Gulf of California specimens identified as “*C. mexicana*” need to be reexamined to determine their identifications (see also Remarks under *C. cupressoides*).

HALIMEDACEAE LINK, 1832:115

Halimeda J. V. Lamouroux, 1812:186

Halimeda cuneata Hering, in Krauss, 1846:214

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Chacala, NAY, to Bahía de Banderas, JAL.

TYPE LOCALITY. Natal Bay, South Africa (Silva et al., 1996).

Halimeda discoidea Decaisne, 1842a:102

GULF OF CALIFORNIA DISTRIBUTION. EC: Guaymas, SON, to Bahía de Banderas, JAL. WC: Santa Rosalía to San José del Cabo, BCS. IS: Puerto Refugio, Isla Ángel de la Guarda, ISG; Isla San Francisco, Isla Monserrate, Isla Cholla, Isla Partida, Isla Espíritu Santo, and Isla San Juan Nepomuceno, BCS; Isla María Magdalena and Isla Larga, NAY.

TYPE LOCALITY. “Not certain” (Silva et al., 1996). Herbarium label (PC) indicates “Kamtschatka” (Russia), collected during the voyage of the ship *Venus* (Decaisne, 1842b). Hillis (1959; Hillis-Colinvaux, 1980) noted “at least the locality [is] incorrect,” as waters of the Kamchatka Peninsula are far too cold for this tropical to subtropical species.

Halimeda opuntia (Linnaeus) J. V. Lamouroux, 1816:308

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía Balandra, BCS.

TYPE LOCALITY. Jamaica (Hillis, 1959).

REMARKS. Mora-Valdés and Riosmena-Rodríguez (2016) mistakenly stated Pedroche et al. (2005) listed “*H. opuntia*” as a synonym of *H. hederacea*. Only two subspecific taxa, *H. opuntia* f. *hederacea* Barton (1901) and *H. opuntia* var. *hederacea* (Barton) Hillis-Colinvaux (Hillis, 1959), were listed as synonyms of *H. hederacea* (Barton) Hillis-Colinvaux (1968) by Pedroche et al. (2005:80) and not the species *H. opuntia* (Linnaeus) J. V. Lamouroux (1816).

Halimeda tuna (J. Ellis et Solander) J. V. Lamouroux, 1816:309

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía de Banderas, NAY/JAL.

TYPE LOCALITY. Mediterranean Sea.

UDOTEACEAE J. AGARDH, 1887:12

Chlorodesmis Harvey et Bailey, 1851:373

Chlorodesmis caespitosa J. Agardh, 1887:49

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY.

TYPE LOCALITY. Colombo, Sri Lanka, Indian Ocean.

***Chlorodesmis hildebrandtii* A. Gepp et E. S. Gepp, 1911:16**

GULF OF CALIFORNIA DISTRIBUTION. EC: Playa Los Muertos, NAY, to Bahía de Banderas, JAL. WC: Punta Arena, BCS. IS: Isla San Francisco, Isla Partida, and Isla Espíritu Santo, BCS; Isla Larga, NAY.

SYNTYPE LOCALITIES. Localities listed by Gepp and Gepp (1911:16): “Comoros Islands, Johanna, Pomona, [and] Selayar [sic] Island”; Selayar Island, Selayar Islands, South Sulawesi Province, Indonesia.

LECTOTYPE LOCALITY. “Johanna, Pomona” (Gepp and Gepp, 1911:16); Domoni, Anjouan Island (Johanna; Ndzuani; Ndzuwani), Comoros Islands, Indian Ocean (Ducker, 1967).

***Chlorodesmis mexicana* W. R. Taylor, 1945:64**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de Banderas, NAY/JAL.

LECTOTYPE LOCALITY. In tide pools; Bahía Braithwaite, Isla Socorro, Islas Revillagigedo, Colima, Mexico.

REMARKS. Although listed as a synonym of *C. caespitosa* by Pedroche et al. (2005), others recognize it as a distinct taxon (e.g., Guiry and Guiry, 2014; Mora-Valdés and Riosmena-Rodríguez, 2016).

**DASYCLADOPHYCEAE C. HOEK, D. G. MANN
ET JAHNS, 1995:436, NOM. INVALID.**

REMARKS. The class name is not validly published (see McNeill et al., 2012: Art. 44), and some include members of the class in the Ulvophyceae (see Guiry and Guiry, 2016).

DASYCLADALES BESSEY, 1907:287**DASYCLADACEAE KÜTZING, 1843:302, 312*****Batophora* J. Agardh, 1854:107*****Batophora oerstedii* J. Agardh, 1854:108**

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN.

TYPE LOCALITY. Among the red mangroves, *Rhizophora mangle*; Krause lagoon, Saint Croix, U.S. Virgin Islands, Leeward Islands, Caribbean Sea.

Neomeris* J. V. Lamouroux, 1816:241**Neomeris annulata* Dickie, 1874:198**

GULF OF CALIFORNIA DISTRIBUTION. WC: Ensenada de Muertos to Arrecife de Cabo Pulmo, BCS. IS: Canal de San Lorenzo, Isla Espíritu Santo, Isla Partida, and Isla Cerralvo, BCS.

TYPE LOCALITY. Mauritania, on Atlantic coast of western North Africa.

POLYPHYSACEAE KÜTZING, 1843:302, 311***Acetabularia* J. V. Lamouroux, 1812:185*****Acetabularia caliculus* J. V. Lamouroux, in Quoy et Gaimard, 1824:621**

GULF OF CALIFORNIA DISTRIBUTION. EC: Bahía la Choya, Puerto Peñasco, SON. WC: Bahía de La Paz to Arrecife de Cabo Pulmo, BCS. IS: Isla Espíritu Santo, BCS.

TYPE LOCALITY. “Baie des Chiens-Marins” (Lamouroux in Quoy and Gaimard, 1824:261); Shark Bay, Gascoyne region, Western Australia, Australia.

***Acetabularia crenulata* J. V. Lamouroux, 1816:249**

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON/SIN. WC: Bahía de La Paz to Bahía Balandra, BCS.

TYPE LOCALITY. Caribbean Sea.

***Acetabularia farlowii* Solms-Laubach, 1895:27**

GULF OF CALIFORNIA DISTRIBUTION. EC: Laguna de Agiabampo, SON, to Laguna Altata-Ensenada del Pabellón, SIN.

TYPE LOCALITY. Key West, Florida Keys, Monroe County, Florida, USA.

***Acetabularia schenckii* K. Möbius, 1889:318**

GULF OF CALIFORNIA DISTRIBUTION. EC: Lagunas Santa María-Topolobampo-Ohuira to Laguna Altata-Ensenada del Pabellón, SIN. WC: Bahía de La Paz, BCS. IS: Isla Espíritu Santo, BCS.

TYPE LOCALITY. Rio de Janeiro, [state of] Rio de Janeiro, Brazil (Oliveira Filho, 1977).

***Parvocaulis* S. Berger, Fettweiss,
Gleissberg, Liddle, U. Richter, Sawitzky
et Zuccarello, 2003:559**

***Parvocaulis parvulus* (Solms-Laubach) S. Berger, Fettweiss, Gleissberg, Liddle, U. Richter, Sawitzky et Zuccarello, 2003:559**

GULF OF CALIFORNIA DISTRIBUTION. EC: Punta de Mita, NAY, to Bahía de Banderas, JAL. WC: Punta Arena to Cabo Pulmo, BCS.

SYNTYPE LOCALITIES. Two locales were given for *Acetabularia parvula* by Solms-Laubach (1895:29): tropical India and Celebes, Indonesia.

LECTOTYPE LOCALITY. Makasar, Sulawesi (Celebes), Indonesia (Lipkin and Silva, 2002).

***Parvocaulis pusillus* (M. Howe) S. Berger, Fettweiss, Gleissberg, Liddle, U. Richter, Sawitzky et Zuccarello, 2003:560**

GULF OF CALIFORNIA DISTRIBUTION. WC: Bahía de La Paz to Arrecife de Cabo Pulmo, BCS. IS: Isla San Juan Nepomuceno, BCS.

TYPE LOCALITY. Montego Bay, Jamaica, Greater Antilles, Caribbean Sea.

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Appendix: Localities Cited in Distribution Sections

TABLE A1. Localities cited in Gulf of California Distribution sections, including state (estado) and geographic coordinates for each. Abbreviations: BC = Baja California; BCS = Baja California Sur; GUER = Guerrero; IS = Islas; ISG = Islas Grandes (Islas de la Cintura; Midriff Islands); JAL = Jalisco; MICH = Michoacán; NAY = Nayarit; SIN = Sinaloa; SON = Sonora; vic. = in the vicinity of.

Locality	State	Latitude (N)	Longitude (W)
Arrecife de Cabo Pulmo	BCS	23°26'	109°25'
Bahía Agua Verde	BCS	25°31'	110°56'
Bahía Bacoichibampo (Bocoichibampo)	SON	27°55'	110°58'
Bahía Balandra	BCS	24°19'	110°18'
Bahía Catalina (inlet, Canal de Guaymas, vic. Punta Narizón)	SON	27°52'	110°52'
Bahía Chacala	NAY	21°10'	105°14'
Bahía Concepción	BCS	26°39'	111°48'
Bahía Coyote (Bahía El Coyote; inside Bahía Concepción)	BCS	24°41'	110°43'
Bahía de Agua Dulce (Bahía Tecamate), Isla Tiburón	SON/ISG (IS)	29°00'	112°23'
Bahía de Banderas	JAL	20°40'	105°25'
Bahía de La Paz	BCS	24°20'	110°25'
Bahía de Las Ánimas	BC	28°48'	113°21'
Bahía de Loreto	BCS	26°01'	111°21'
Bahía de Los Ángeles	BC	28°55'	113°32'
Bahía de los Muertos (Bahía de los Suenos)	BCS	23°59'	109°49'
Bahía del Rincón	BCS	23°30'	109°30'
Bahía de Navachiste	SIN	25°27'	108°50'
Bahía de San Lucas	BCS	22°53'	109°52'
Bahía Empalme	SON	27°55'	110°48'
Bahía Kino	SON	28°46'	111°53'
Bahía la Choya (Bahía Cholla)	SON	31°20'	113°37'
Bahía La Ventana (SE of La Paz)	BCS	24°03'	109°59'
Bahía Salinas (Isla Carmen)	BCS	26°01'	111°07'
Bahía San Carlos	SON	27°56'	111°03'
Bahía San Felipe	BC	31°00'	114°51'
Bahía San Francisco	SON	27°57'	111°00'
Bahía San Francisquito	BC	28°26'	112°53'
Bahía San Gabriel (Isla Espíritu Santo)	BCS (IS)	24°25'	110°20'
Bahía San José del Cabo	BCS	23°02'	109°40'
Bahía San Luis Gonzaga	BC	29°48'	114°22'
Bahía San Pedro	SON	28°03'	111°14'
Bahía Tenacatita	JAL	19°17'	104°48'
Bahía Tepoca	SON	29°22'	112°53'

TABLE A1. (Continued)

Locality	State	Latitude (N)	Longitude (W)
Bahía Topolobampo	SIN	25°33'	109°05'
Bahía Willard	BC	29°49'	114°23'
Barra de Navidad	JAL	19° 12'	104° 41'
Boca del Río Mayo	SON	27°01'	109°59'
Cabeza Ballena (E of Cabo San Lucas)	BCS	22°54'	109°51'
Cabo Arco (N of Guaymas)	SON	27°52'	110°57'
Cabo Corrientes	JAL	20°24'	105°41'
Cabo Los Machos (Bahía Concepción)	BCS	26°52'	111°54'
Cabo Pulmo	BCS	23°26'	109°25'
Cabo San Lucas	BCS	22°52'	109°53'
Cabo Tepoca (reef of Punta Tepoca)	SON	30°16'	112°50'
Calerita (vic. La Paz)	BCS	24°21'	110°16'
Caleta Partida (between Isla Partida and Isla Espíritu Santo)	BCS (IS)	24°31'	110°23'
Caleta Santa María (N of Santa Rosalía)	BCS	27°25'	112°19'
Caleta Santa María (NE of Cabo San Lucas)	BCS	23°05'	109°37'
Campo Hawaii (Playa Hawaii)	BC	31°03'	114°49'
Campo Oona (S of Campo Víboras)	SON	28°58'	112°09'
Campo Víboras (“ <i>Quipcō Coospoj</i> ” in Seri language; N of Punta Chueca)	SON	28°57'	112°09'
Canal de Ballenas (between W coast of Isla Ángel de la Guarda and E coast of Baja California)	BC	29°34' to 28°23'	
Canal de Infiernillo (“ <i>Xepe Coosot</i> ” in Seri language; between Isla Tiburón and Sonora coast)	SON/ISG (IS)	29°01'	112°10'
Canal de San Lorenzo (off S end of Isla Espíritu Santo)	BCS	24°24'	110°16'
Canal Mejía (between Isla Mejía and Isla División)	BC/ISG (IS)	29°32'	113°33'
Cerro El Crestón (W of Bahía de Mazatlán)	SIN	23°10'	106°25'
El Colorado	SON	28°17'	111°25'
El Desemboque (Desemboque; El Desemboque Asunción)	SON	30°34'	113°00'
El Desemboque de los Seris (“ <i>Haxöl Iihom</i> ” in Seri language; El Desemboque de San Ignacio)	SON	29°30'	112°23'
El Faro	MICH	18°19'	103°29'
El Huerfanito	BC	30°07'	114°38'
El Machorro	BC	31°11'	114°53'
El Malecón (La Paz)	BCS	24°10'	110°18'
El Pardito-El Lobera (Isla San José)	BCS (IS)	24°51'	110°35'
El Requesón (Bahía Concepción)	BCS	26°38'	111°50'
El Tecolote	BCS	24°21'	110°19'
El Tornillal (Golfo de Santa Clara)	SON	31°34'	114°18'
Ensenada Ampe	BCS	24°20'	110°25'
Ensenada Bacochibampo	SON	27°55'	110°58'
Ensenada de La Paz	BCS	24°08'	110°23'
Ensenada de San Francisco (NE of Guaymas)	SON	27°56'	111°04'
Ensenada Lalo (vic. Bahía San Carlos)	SON	27°56'	111°05'
Estero Balandra	BCS	24°19'	110°20'
Estero de Bacorehuis (SE Lagnua de Agiabampo)	SIN	26°17'	109°08'
Estero del Urías	SIN	23°11'	106°26'
Estero Santa Rosa	SON	28°58'	112°09'
Estero Zacatecas (Bahía de La Paz)	BCS	24°10'	110°26'
Eureka (Rancho Eureka; near La Paz)	BCS	23°36'	109°36'

TABLE A1. (Continued)

Locality	State	Latitude (N)	Longitude (W)
Faro de San Felipe	BC	31°03'	114°51'
Guaymas	SON	27°55'	110°55'
Golfo de Santa Clara	SON	31°30–34'	114°09–18'
Isla Ardilla (vic. Guaymas)	SON	27°55'	110°54'
Isla Alcatraz	SON (IS)	28°48'	111°58'
Isla Ángel de la Guarda	BC/ISG (IS)	29°15'	113°22'
Isla Bargo (Bahía Concepción)	BCS	26°43'	111°53'
Isla Carmen	BCS (IS)	25°57'	111°12'
Isla Cerralvo	BCS	24°14'	109°53'
Isla Cholla (vic. Isla Carmen)	BCS (IS)	26°03'	111°13'
Isla Coronado (Isla Smith)	BC (IS)	29°04'	113°32'
Isla Danzante	BCS (IS)	25°47'	111°15'
Isla de la Piedra (vic. Mazatlán)	SIN (IS)	23°11'	106°25'
Isla de Venados (Isla Vernados)	SIN	23°14'	106°29'
Isla El Choyero	SON (IS)	28°44'	112°18'
Isla Espíritu Santo	BCS (IS)	24°30'	110°22'
Isla Estanque (Isla Pond, Isla la Bibera)	BC/ISG (IS)	29°03'	113°06'
Isla Gallina (La Gallina)	BCS (IS)	24°27'	110°23'
Isla Gallo (El Gallo; “Gallo-Gallina”)	BCS (IS)	24°27'	110°23'
Isla Gaviota (Bahía de La Paz)	BCS	24°17'	110°20'
Isla Isabel	NAY (IS)	21°51'	105°54'
Isla Ixtapa (Isla Grande)	GUER	17°41'	101°39'
Isla [Islote] La Ballena	BCS	24°29'	110°24'
Isla Larga	NAY (IS)	20°42'	105°35'
Isla Las Ánimas (Isla San Lorenzo del Norte), Islas San Lorenzo	BC/ISG (IS)	28°41'	112°55'
Isla La Ventana	BC (IS)	29°00'	114°31'
Isla Los Lobos	SIN	23°13'	106°27'
Isla María Cleofas, Islas Marías (Islas Tres Marías)	NAY (IS)	21°18'	106°15'
Isla María Madre, Islas Marías (Islas Tres Marías)	NAY (IS)	21°35'	106°36'
Isla María Magdalena, Islas Marías (Islas Tres Marías)	NAY (IS)	21°27'	106°28'
Isla Mejía (NW of Puerto Refugio, I. Ángel de la Guarda)	BC/ISG (IS)	29°33'	113°34'
Isla Monserrate	BCS (IS)	25°41'	111°03'
Isla Partida [norte] (Isla Cordonazo; NW of Isla Rasa)	BC/ISG (IS)	28°53'	113°04'
Isla Partida [sur] (N of Isla Espíritu Santo)	BCS (IS)	24°32'	110°21'
Isla Patos (off N end of Isla Tiburón)	SON/ISG (IS)	29°16'	112°27'
Isla Pelicano (WNW of Isla Alcatraz)	SON (IS)	28°48'	111°58'
Isla Rasa (Isla Raza)	BC/ISG (IS)	28°48'	112°56'
Isla Salsipuedes (Islas de San Lorenzo)	BC/ISG (IS)	28°43'	112°57'
Isla San Diego	BCS (IS)	25°11'	110°42'
Isla San Esteban	SON/ISG (IS)	28°42'	112°36'
Isla San Francisco (off S end of Isla San José)	BCS (IS)	24°45'	110°34'
Isla San Ildefonso (E of Bahía de San Nicolas)	BCS (IS)	26°37'	111°26'
Isla San Jorge (SE of Puerto Peñasco)	SON (IS)	31°00'	113°15'
Isla San José	BCS (IS)	25°00'	110°36'
Isla San Juan Nepomuceno	BCS (IS)	24°16'	110°20'
Isla San Lorenzo (Isla San Lorenzo del Sur), Islas San Lorenzo	BC/ISG (IS)	28°34'	112°49'
Isla San Luis Gonzaga (Isla Willard)	BC (IS)	29°58'	114°24'
Isla San Marcos	BCS (IS)	27°13'	112°06'

TABLE A1. (Continued)

Locality	State	Latitude (N)	Longitude (W)
Isla San Pedro Mártir	SON/ISG (IS)	28°23'	112°19'
Isla San Pedro Nolasco	SON (IS)	27°58'	111°23'
Isla Santa Catalina	BCS (IS)	25°40'	110°47'
Isla Santa Cruz	BCS	25°17'	110°43'
Islas de Los Gemelos (isla oeste and isla este)	BC (IS)	28°57'	113°29'
Islas Santa Inés (Islas Santa Inez)	BCS	27°02'	111°54'
Isla Tiburón	SON/ISG (IS)	29°00'	112°22'
Isla Tortuga	BCS (IS)	27°26'	111°52'
Isla Turner (Isla Turners; El Dátil; Isla Dátil)	SON/ISG (IS)	28°43'	112°19'
La Concha Beach (vic. La Paz)	BCS	24°10'	110°19'
La Cruz de Huanacastle (NW Bahía de Banderas)	NAY	20°45'	105°23'
Laguna Altata-Ensenada del Pabellón	SIN	24°24'	107°31'
Laguna, Bahía San Gabriel (Isla Espíritu Santo)	BCS (IS)	24°25'	110°20'
Laguna de Agiabampo (estero de Agiabampo)	SON/SIN	26°21'	109°12'
Laguna de Agua Brava	NAY	22°09'	105°30'
Laguna Santa María y Laguna La Reforma	SIN	25°02'	108°03'
Lagunas Santa María-Topolobampo-Ohuira	SIN	25°33'	109°05'
La Paz	BCS	24°10'	110°18'
Las Cruces	BCS	24°17'	110°12'
Las Cuevas	NAY	21°09'	105°14'
Las Peñas	NAY	21°01'	105°16'
Las Piedras del Burro	SON	31°37'	114°23'
La Ventana	BCS	24°02'	110°01'
Lo de Marcos ("Los de Marco")	NAY	20°57'	105°20'
Los Planes	BCS	24°01'	109°48'
Los Pocitos (SW Bahía Concepción)	BCS	26°40'	111°48'
Los Tornados	BCS	24°15'	110°10'
Mazatlán	SIN	23°13'	106°25'
Miramar	NAY	21°26'	105°11'
Mulegé	BCS	26°53'	111°56'
Nopoló	BCS	25°56'	111°22'
Nueva Guaymas (Bahía San Carlos)	SON	27°56'	111°03'
Pichilinke	BCS	24°16'	110°19'
Piedras de La Salina (Golfo de Santa Clara)	SON	31°30'	114°09'
Piedras del Burro (Golfo de Santa Clara)	SON	31°33'	114°17'
Playa Arenosa (vic. Puerto Peñasco)	SON	31°19'	113°35'
Playa Carelleros (Careyeros)	NAY	20°47'	105°31'
Playa de Guayabitos (Rincón de Guayabitos)	NAY	21°03'	105°17'
Playa El Caimancito	BCS	24°20'	110°30'
Playa El Coloradito	BC	30°34'	114°40'
Playa El Sábalo (Punta Sábalo)	SIN	23°15'	106°27'
Playa Estación and Cumpleaños Tide Pool (Puerto Peñasco)	SON	29°59'	111°11'
Playa Hermosa (vic. Puerto Peñasco)	SON	31°19'	113°33'
Playa Las Conchas (vic. Puerto Peñasco)	SON	31°17'	113°29'
Playa Las Peñas (vic. Playa de Guayabitos)	NAY	21°03'	105°17'
Playa Los Algodones (NW of San Carlos)	SON	27°57'	111°06'
Playa Los Cerritos (vic. Mazatlán)	SIN	23°19'	106°29'
Playa Los Muertos	NAY	20°51'	105°28'

TABLE A1. (Continued)

Locality	State	Latitude (N)	Longitude (W)
Playa Mezcales	JAL	19°36'	105°08'
Playa Norte (vic. Mazatlán)	SIN	23°13'	106°25'
Playa Olas Altas (vic. Mazatlán)	SIN	23°11'	106°25'
Playa San Francisco	NAY	20°54'	105°24'
Playa Santa Teresa	BC	30°20'	114°38'
Playa Tucson (vic. Puerto Peñasco)	SON	31°19'	113°33'
Puertecitos	BC	30°21'	114°37'
Puerto Ballandra (I. Carmen)	BCS (IS)	26°01'	110°10'
Puerto Calamajué	BC	29°40'	114°10'
Puerto Escondido	BCS	25°48'	111°19'
Puerto Libertad	SON	29°55'	112°41'
Puerto Lobos	SON	30°16'	112°51'
Puerto Peñasco	SON	31°20'	113°40'
Puerto Refugio (Isla Ángel de la Guarda)	BC/ISG (IS)	29°32'	113°33'
Puerto San Carlos	SON	27°56'	111°01'
Puerto Vallarta	JAL	20°37'	105°14'
Puerto Viejo (vic. Mazatlán)	SIN	23°12'	106°25'
Punta Aguja	BCS	26°53'	111°49'
Punta Arena (Punta Arenas; N of Cabo Pulmo)	BCS	23°03'	109°48'
Punta Bufo	BC	29°55'	114°26'
Punta Cabeza de Mechudo (Bahía de La Paz)	BCS	24°48'	110°39'
Punta Chile	SIN	23°12'	106°25'
Punta Chivato (Punta Santa Inés[z])	BCS	27°04'	111°56'
Punta Chueca ("Socaaix" in Seri language)	SON	29°01'	112°10'
Punta Cirio	SON	29°50'	112°39'
Punta Colorado (near Candeleros, vic. Guaymas)	SON	28°46'	112°22'
Punta Coyote (E of La Paz)	BCS	24°20'	110°13'
Punta Concepción	BCS	23°34'	111°49'
Punta Derecha	SIN	23°12'	106°26'
Punta El Pulpito (Pulpito, vic. Loreto)	BCS	26°31'	111°26'
Punta Gallito	BCS	26°52'	111°56'
Punta Gorda (NE end of Bahía San José del Cabo)	BCS	23°05'	109°35'
Punta Gorda (Golfo de Santa Clara)	SON	31°30'	114°12'
Punta La Gringa (vic. Bahía de Los Ángeles)	BC	29°03'	113°32'
Punta Las Cuevas	SON	27°56'	112°03'
Punta Las Cuevitas	SON	29°16'	112°30'
Punta Los Frailes	BCS	23°23'	109°25'
Punta Palmilla (vic. San José del Cabo)	BCS	23°00'	109°43'
Punta Pelicano (vic. Puerto Peñasco)	SON	31°20'	113°38'
Punta Perico (ESE of Bahía Salinas, I. Carmen)	BCS (IS)	25°58'	111°05'
Punta Perico[s] (N end of Bahía de los Muertos)	BCS	24°10'	109°80'
Punta Piaxtla	SIN	23°39'	106°48'
Punta Prieta (in Bahía Topolobampo)	SIN	25°33'	109°05'
Punta Robinson (between Punta Tepoca & Punta Cirio)	SON	29°54'	112°43'
Punta San Evaristo	BC	24°55'	110°42'
Punta San Felipe	BC	31°03'	114°51'
Punta San Marcial	BCS	25°31'	111°01'
Punta San Pedro (N of entrance to Bahía San Pedro)	SON	28°03'	111°14'

TABLE A1. (*Continued*)

Locality	State	Latitude (N)	Longitude (W)
Río Mayo (near mouth of river)	SON	26°42'	109°31'
Roca El Solitario (northern Bahía Agua Verde)	BCS	25°32'	110°56'
Roca Roja (Bahía Kino)	SON	28°50'	111°59'
Roca San Marcial	BCS	25°32'	111°00'
San Blas	NAY	21°31'	105°17'
San Felipe	BC	31°01'	114°52'
San José del Cabo	BCS	23°02'	109°40'
San Juan de la Costa (Bahía de La Paz)	BCS	24°20'	110°39'
Santa Rosalía	BCS	27°20'	112°17'
Sayulita	NAY	20°52'	105°28'
Segundo Cerro Prieto (vic. Kino Nuevo, Bahía Kino)	SON	28°53'	112°02'
Tarabillas	BCS	24°27'	110°41'
Teacapán	SIN	22°32'	105°45'
Topolobampo	SIN	25°36'	109°03'
Yelapa	JAL	20°16'	105°26'

References

- Abbott, I. A. 1967. Studies in Some Foliose Red Algae of the Pacific Coast, I: Cryptonemiaceae. *Journal of Phycology* 3: 139–149. doi: 10.1111/j.1529-8817.1967.tb04648.x.
- Abbott, I. A. 1968. Studies in Some Foliose Red Algae of the Pacific Coast, III: Dumontiaceae, Weeksiaceae, Kallymeniaceae. *Journal of Phycology* 4: 180–198. doi: 10.1111/j.1529-8817.1968.tb04714.x.
- Abbott, I. A. 1971. On Some Ceramiaceae (Rhodophyta) from California. *Pacific Science* 25: 349–356.
- Abbott, I. A. 1972. Taxonomic and Nomenclatural Notes on North Pacific Algae. *Phycologia* 11: 259–265. doi: 10.2216/i0031-8884-11-3-259.1.
- Abbott, I. A. 1983. Some Species of *Gracilaria* (Rhodophyta) from California. *Taxon* 32: 561–564. doi: 10.2307/1221725.
- Abbott, I. A. 1985. New Species of *Gracilaria* Grev. (Gracilariaceae, Rhodophyta) from California and Hawaii. In *Taxonomy of Economic Seaweeds, with Reference to Some Pacific and Caribbean Species*, Volume 1, I. A. Abbott and J. N. Norris, eds., pp. 115–121. La Jolla: California Sea Grant College Program, University of California, San Diego.
- Abbott, I. A. 1999. *Marine Red Algae of the Hawaiian Islands*. xv+477 pp. Honolulu, Hawaii: Bishop Museum Press.
- Abbott, I. A., and G. J. Hollenberg. 1976. *Marine Algae of California*. xii+[2]+827 pp. Stanford, Calif.: Stanford University Press.
- Abbott, I. A., and J. M. Huisman. 2004. *Marine Green and Brown Algae of the Hawaiian Islands*. xi+259 pp., 6 maps, 3 pls. Honolulu: Bishop Museum Press.
- Adams, N. M. 1994. *Seaweeds of New Zealand: An Illustrated Guide*. 360 pp. Christchurch, N.Z.: Canterbury University Press.
- Adanson, M. 1763. *Familles des Plantes*. Volume 2. [i]+[24]+[vi]+640 pp. Paris: Vincent. doi: 10.5962/bhl.title.271.
- Adey, W. H. 1970. A Revision of the Foslie Crustose Coralline Herbarium. *Det Kongelige Norske Videnskabers Selskabs Skrifter* 1970(1): 1–46.
- Adey, W. H., and H. W. Johansen. 1972. Morphology and Taxonomy of Corallinaceae with Special Reference to *Clathromorphum*, *Mesophyllum*, and *Neopolyporolithon* gen. nov. (Rhodophyceae, Cryptonemiales). *Phycologia* 11: 159–180. doi: 10.2216/i0031-8884-11-2-159.1.
- Agardh, C. A. 1811. *Dispositio Algarum Sueciae, Quam, Publici Examini Subjiciunt Carl Adolph Agardh . . . & Johannes Bruzelius, Scanus, Die xi Decembris mdcccxi. Pt. II, b. & l.s.* pp. [i]+17–26. Lund: Berling.
- Agardh, C. A. 1817. *Synopsis Algarum Scandinaviae, Adjecta Dispositione Universali Algarum*. xl+135 pp. Lund: Berling.
- Agardh, C. A. 1820. *Species Algarum Rite Cognitae, cum Synonymis, Differentiis Specificis et Descriptonibus Succinctis. Fucoideae*, Volume 1, Part 1. [iv]+168 pp. Lund: Berling.
- Agardh, C. A. 1822. *Species Algarum Rite Cognitae, cum Synonymis, Differentiis Specificis et Descriptonibus Succinctis*, Volume 1, Part 2. pp. [vi]+169–398. Lund: Berling.
- Agardh, C. A. 1823. *Species Algarum Rite Cognitae, cum Synonymis, Differentiis Specificis et Descriptonibus Succinctis*, Volume 1, Part 2. pp. 399–531. Lund: Berling.
- Agardh, C. A. 1824. *Systema Algarum*. xxxviii+312 pp. Lund: Berling.
- Agardh, C. A. 1827. Aufzählung einiger in den österreichischen Ländern gefundenen neuen Gattungen und Arten van Algen, nebst ihrer Diagnostik und beigefügten Bemerkungen. *Flora, Regensburg* 10: 625–646.
- Agardh, C. A. 1828. *Species Algarum Rite Cognitae, cum Synonymis, Differentiis Specificis et Descriptonibus Succinctis*, Volume 2, Part 1. lxxvi+189 pp. Greifswald, Germany: Ernst Mauritius.
- Agardh, J. G. 1837. Novae species algarum, quas in itinere ad oras maris rubri collegit Eduardus Rüppell; cum observationibus nonnullis in species rariores antea cognitae. *Museum Senckenbergianum* 2: 169–174.
- Agardh, J. G. 1842. *Algae Maris Mediterranei et Adriatici, Observations in Diagnosin Specierum et Dispositionem Generum*. [i]+x+164 pp. Paris: Fortin, Masson et Cie.

- Agardh, J. G. 1847. Nya alger från Mexico. Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar, Stockholm 4: 5–17.
- Agardh, J. G. 1848. *Species Genera et Ordines Algarum, seu Descriptions Succinctae Specierum, Generum et Ordinum, Quibus Algarum Regnum Constituitur, Volume 1: Species Genera et Ordines Fucoidearum*. . . [iii]+viii+363 pp. Lund: C. W. K. Gleerup.
- Agardh, J. G. 1849. Algologiska bidrag. Öfversigt af Kongl. Vetenskaps-Akademiens Förhandlingar, Stockholm 6: 79–89.
- Agardh, J. G. 1851. *Species Genera et Ordines Algarum, seu Descriptions Succinctae Specierum, Generum et Ordinum, Quibus Algarum Regnum Constituitur, Volume 2, Part 1: Species Genera et Ordines Floridearum*. . . pp. [iii]+xii+[1]–336+[1–13]+[1]. Lund: C. W. K. Gleerup.
- Agardh, J. G. 1852a. *Species Genera et Ordines Algarum, seu Descriptions Succinctae Specierum, Generum et Ordinum, Quibus Algarum Regnum Constituitur, Volume 2: Algas Florideae Complectens, Part 2: Species Genera et Ordines Floridearum*. . . pp. [ii]+337–700, [1–14]+[1–6]. Lund: C. W. K. Gleerup.
- Agardh, J. G. 1852b. *Species Genera et Ordines Algarum, seu Descriptions Succinctae Specierum, Generum et Ordinum, Quibus Algarum Regnum Constituitur, Volume 2, Part 3 (Fasciculus 1): Species Genera et Ordines Floridearum*. . . pp. [i]+701–786. Lund: C. W. K. Gleerup.
- Agardh, J. G. 1854. Nya algerformer. Öfversigt af Kongl. Vetenskaps-Akademiens Förhandlingar, Stockholm 11(4): 107–111.
- Agardh, J. G. 1863. *Species Genera et Ordines Algarum, seu Descriptions Succinctae Specierum, Generum et Ordinum, Quibus Algarum Regnum Constituitur, Volume 2, Part 3 (Fasciculus 2): Species Genera et Ordines Floridearum*. . . pp. [ii]+787–1291. Lund: C. W. K. Gleerup.
- Agardh, J. G. 1872. Bidrag till Florideernes systematik. *Lunds Universitets Årsskrift, Afdelningen for Mathematik och Naturvetenskap* 8(6): 1–60.
- Agardh, J. G. 1873. Till algerne systematik, nya bidrag . . . Part 1, Nos. 1–3. *Lunds Universitets Årsskrift, Afdelningen for Mathematik och Naturvetenskap* 9(8): 1–71.
- Agardh, J. G. 1876. *Species Genera et Ordines Algarum, seu Descriptions Succinctae Specierum, Generum et Ordinum, Quibus Algarum Regnum Constituitur, Volume 3, Part 1: Epicrisis Systematis Floridearum*. [ii]+viii+[1]–724 pp. Leipzig: T. O. Weigel.
- Agardh, J. G. 1883. Till algerne systematik, nya bidrag . . . Part 3, No. 6. *Lunds Universitets Årsskrift, ny foeljd, Afdelningen for Mathematik och Naturvetenskap* 19(2): 1–177+[4], pls. 1–4.
- Agardh, J. G. 1885. Till algerne systematik, nya bidrag . . . Part 4, No. 7. *Lunds Universitets Årsskrift, ny foeljd, Afdelningen for Mathematik och Naturvetenskap* 21(8): 1–117+[3], pl. 1.
- Agardh, J. G. 1887. Till algerne systematik, nya bidrag . . . Part 5, No. 8. *Lunds Universitets Årsskrift, ny foeljd, Afdelningen for Mathematik och Naturvetenskap* 23: 1–174+[6], pls. 1–5.
- Agardh, J. G. 1889. Species Sargassorum Australiae, descriptae et depositae. *Kongliga Svenska Vetenskaps-Akademiens Handlingar* 23(3): [1]–133, 31 pls.
- Agardh, J. G. 1892. Analecta Algologica, observationes depeciebus Algarum minus cognitiss earumque dispositione. *Lunds Universitets Årsskrift, Andra Afdelningen, Kongliga Fysiografiska Sällskapet i Lund Handlingar* 28(6): [i]+182, pls. 1–3.
- Agardh, J. G. 1894. Analecta Algologica, observationes depeciebus Algarum minus cognitiss earumque dispositione. Continuatio 1. *Lunds Universitets Årsskrift, Andra Afdelningen, Kongliga Fysiografiska Sällskapet i Lund Handlingar* 29(9): 1–144, pls. 1–2.
- Agardh, J. G. 1898. *Species Genera et Ordines Algarum, seu Descriptions Succinctae Specierum, Generum et Ordinum, Quibus Algarum Regnum Constituitur, Volume 3, Part 3: De dispositione Delesseriearum Curae Posteriores*. [vi]+239 pp. Lund: C. W. K. Gleerup.
- Agardh, J. G. 1899. Analecta Algologica, observationes de specibus Algarum minus cognitiss earumque dispositione. Continuatio 5. *Lunds Universitets Årsskrift, Andra Afdelningen, Kongliga Fysiografiska Sällskapet i Lund Handlingar* 35(4): 160 pp., 3 pls.
- Agardh, J. G. 1901. *Species Genera et Ordines Algarum, seu descriptions succinctae specierum, generum et ordinum, quibus Algarum regnum constituitur, Volume 3, Part 4: Supplementa ulteriora et indices sistens*. [vi]+149 pp. Lund: C. W. K. Gleerup.
- Aguilar-Rosas, L. E., F. F. Pedroche, and J. A. Zertuche-González. 2014. Macroalgas marinas introducidas en la costa Pacifico de México: Estado actual. In *Especies invasoras acuáticas: Casos de estudio en ecosistemas de México*, 1st ed., A. M. Low Pfeng, P. A. Quijón, and E. M. Peters Recagno, eds., pp. 81–117. Mexico City: Secretaría de Medio Ambiente y Recursos Naturales (Semarnat), Instituto Nacional de Ecología y Cambio Climático (INECC), and University of Prince Edward Island (UPEI).
- Aguilar-Rosas, R., L. E. Aguilar-Rosas, and F. F. Pedroche. 2005. *Ulva fasciata* Delile (Ulvaceae, Chlorophyta): A Species Newly Introduced into Pacific México. *Botanica Marina* 48: 46–51. doi: 10.1515/BOT.2005.005.
- Aguilar-Rosas, R., L. E. Aguilar-Rosas, and S. Shimada. 2008. First Record of *Ulva pertusa* Kjellman (Ulvales, Chlorophyta) in the Pacific Coast of México. *Algae* 23(3): 201–207. doi: 10.4490/ALGAE.2008.23.3.201.
- Aguilar-Rosas, R., and A. Machado-Galindo. 1990. Ecological Aspects of *Sargassum muticum* (Fuciales, Phaeophyta) in Baja California, México: Reproductive Phenology and Epiphytes. In *Proceedings of the 13th International Seaweed Symposium*, S. C. Lindstrom and P. W. Gabrielson, eds. *Hydrobiologia* 204/205: 185–190.
- Aguilar-Rosas, R., I. Pacheco-Ruiz, and L. E. Aguilar-Rosas. 1990. Algas marinas de las Islas Todos Santos, Baja California, México. *Ciencias Marinas* 16(2): 117–129.
- Allender, B. M., and G. T. Kraft. 1983. The Marine Algae of Lord Howe Island (New South Wales): The Dictyotales and Cutleriales (Phaeophyta). *Brunonia* 6(1): 73–130. doi: 10.1071/BRU9830073.
- Álvarez-Borrego, S. 1983. Gulf of California. In *Ecosystems of the World, Volume 26: Estuaries and Enclosed Seas*, B. H. Ketchum, ed., pp. 427–449. New York: Elsevier Scientific Publishing Co.
- Álvarez-Borrego, S. 2002. Physical Oceanography. In *A New Island Biogeography of the Sea of Cortes*, T. J. Case, M. L. Cody, and E. Ezcurra, eds., pp. 41–59. New York: Oxford University Press.
- Anderson, C. L. 1894. Some New and Some Old Algae but Recently Recognized on the California Coast. *Zoë* 4: 358–362.
- Andrade-Sorcia, G., R. Riosmena-Rodríguez, R. Muñiz-Salazar, J. M. López-Vivas, G.-H. Boo, K.-M. Lee, and S.-M. Boo. 2014. Morphological Reassessment and Molecular Assessment of *Sargassum* (Fuciales; Phaeophyceae) Species from the Gulf of California, Mexico. *Phytotaxa* 183(4): 210–223. doi: 10.11646/phytotaxa.183.4.1.
- Ardisson, F. 1883. Phycologia mediterranea. Parte prima: Floridee. *Memorie della Società Crittogamologica Italiana* 1: i–x, 1–516.
- Ardre, F. 1977. Sur le cycle du *Schizymenia dubyi* (Chauvin ex Duby) J. Agardh (Némastomacée, Gigartinales). *Revue Algologique, Nouvelle Serie* 12: 73–86.
- Areschoug, J. E. 1847. Phycarum, Quae in Maribus Scandinaviae Crescunt, Enumeratio. Sectio Prior Fucaceas Continentes. *Nova Acta Regiae Societatis Scientiarum Upsaliensis* 13: 223–382, pls. I–IX.
- Areschoug, J. E. 1850. Phycarum, Quae in Maribus Scandinaviae Crescunt, Enumeratio. Sectio Posterior, Ulvaceas Continentes. *Nova Acta Regiae Societatis Scientiarum Upsaliensis* 14: 385–454, pls. I–III.
- Areschoug, J. E. 1852. Ordo XII, Corallineae. In *Species Genera et Ordines Algarum, seu Descriptions Succinctae Specierum, Generum et Ordinum, Quibus Algarum Regnum Constituitur, Volume 2, Part 2: Species Genera et Ordines Floridearum*. . . , J. G. Agardh, ed., pp. 506–576. Lund: C. W. K. Gleerup.
- Areschoug, J. E. 1854. Phyceae Novae et Minus Cognitae in Maribus Extraeuropaeis Collectae. *Nova Acta Regiae Societatis Scientiarum Upsaliensis, Series* 3, 1: 329–372.
- Athanasiadis, A. 1996a. Morphology and Classification of the Ceramioideae (Rhodophyta) Based on Phylogenetic Principles. *Opera Botanica* 128: [4]+5–216.
- Athanasiadis, A. 1996b. *Taxonomisk litteratur och biogeografi av Skandinaviska rodalger och brunalger*. 280 pp. Göteborg: Algologia.
- Athanasiadis, A. 1998. *Crouanophycus* Athanasiadis, *nom. nov.* [= *Crouaniella* Athanasiadis, *nom. illeg.*], a New Genus of the Crouanieae (Ceramiales, Rhodophyta). *Nova Hedwigia* 67: 517–518.
- Athanasiadis, A. 2016a. *Phycologia Europaea Rhodophyta*, Volume I. xxxviii+762 pp. Thessaloniki, Greece: Author.
- Athanasiadis, A. 2016b. *Phycologia Europaea Rhodophyta*, Volume II. pp. [2], 763–1504. Thessaloniki, Greece: Author. [Swedish ISBN: 978-91-637-8523-8.]
- Athanasiadis, A. 2017. A Study of the Original Material of *Lithothamnion engelhardtii* Foslie (Corallinales, Rhodophyta). *Botanica Marina* 60(1): 67–78. doi: 10.1515/bot-2016-0110.
- Athanasiadis, A., and D. L. Ballantine. 2014. The Genera *Melyvonnea* *gen. nov.* and *Mesophyllum* *s.s.* (Melobesioideae, Corallinales, Rhodophyta), Particularly from the Central Atlantic Ocean. *Nordic Journal of Botany* 35: 385–436. doi: 10.1111/njb.00265.
- Athanasiadis, A., and G. T. Kraft. 1994. Description of *Pterothamnion squarulosum* (Harvey) *comb. nov.* from Southeastern Australia and Southern New Zealand, with a Taxonomic Re-assessment of the Genera *Pterothamnion*,

- Platythamnion* and *Glandothamnion* (Ceramiaceae, Rhodophyta). *European Journal of Phycology* 29: 119–133. doi: 10.1080/09670269400650571.
- Athanasiadis, A., P. A. Lebednik, and W. H. Adey. 2004. The Genus *Mesophyllum* (Melobesioideae, Corallinales, Rhodophyta) on the Northern Pacific Coast of North America. *Phycologia* 43: 126–165. doi: 10.2216/i0031-8884-43-2-126.1.
- Ávila, E., M. C. Méndez-Trejo, R. Riosmena-Rodríguez, J. M. López-Vivas, and A. Senties. 2012. Epibiotic Traits of the Invasive Red Seaweed *Acanthophora spicifera* in La Paz Bay, South Baja California (Eastern Pacific). *Marine Ecology* 33: 470–480. doi: 10.1111/j.1439-0485.2012.00511.x.
- Ávila-Ortiz, A. 2003. Una variedad nueva de *Padina mexicana* (Dictyotaceae) para el Pacífico tropical mexicano. *Hidrobiológica* 13(1): 69–74.
- Ávila-Ortiz, A., and F. F. Pedroche. 1999. *Padina tetrastrum* Hauck, a Misapplied Name for *P. crispata* Thivy in Pacific México. *Botanica Marina* 42(4): 355–358.
- Ávila-Ortiz, A., and F. F. Pedroche. 2005. El género *Padina* (Dictyotaceae, Phaeophyceae) en la región tropical del Pacífico mexicano. In *Monografías Ficológicas*, Volume 2, A. Senties Granados and K. M. Dreckmann Estay, eds., pp. 139–171. Mexico City: Universidad Autónoma Metropolitana-Iztapalapa.
- Balakrishnan, M. S. 1980. Taxonomic Studies on U.S. Pacific Cryptonemiaceae, I: Two New Genera: *Isabottia* and *Norrissia*. In *Taxonomy of Algae: Papers Presented at the International Symposium on Taxonomy of Algae Held at the Centre of Advanced Study in Botany, University of Madras, December 9–16, 1974*, T. V. Desikachary and V. N. Raja Rao, eds., pp. 273–286. Madras: University of Madras.
- Baldock, R. N. 1976. The Griffithsia Group of the Ceramiaceae (Rhodophyta) and Its Southern Australian Representatives. *Australian Journal of Botany* 24(4): 509–593. doi: 10.1071/BT9760509.
- Ballantine, D. L., and H. Ruiz. 2011. *Metapeyssonnella milleporoides*, a New Species of Coral-killing Red Alga (Peyssonneliaceae) from Puerto Rico, Caribbean Sea. *Botanica Marina* 54: 47–51. doi: 10.1515/BOT.2011.003.
- Barton, E. S. 1901. *The Genus Halimeda*, M. Weber, ed., pp. [1]–32, pls. I–IV. Siboga-Expedition Monographie, No. 60. Leiden: E. J. Brill.
- Basson, P. W. 1979. Marine Algae of the Arabian Gulf Coast of Saudi Arabia (Second Half). *Botanica Marina* 22: 65–82. doi: 10.1515/botm.1979.22.2.65.
- Batters, E. A. L. 1896. Some New British Marine Algae. *Journal of Botany, British and Foreign* 34: 6–11.
- Batters, E. A. L. 1902. A Catalogue of the British Marine Algae, Being a List of All the Species of Seaweeds Known to Occur on the Shores of the British Islands, with the Localities Where They Are Found. *Journal of Botany, British and Foreign* 40(Suppl.): 1–107.
- Belton, G. S., W. F. Prud'homme van Reine, J. M. Huisman, S. G. A. Draisma, and C. F. D. Gurgel. 2014. Resolving Phenotypic Plasticity and Species Designation in the Morphology Challenging *Caulerpa racemosa-peltata* Complex (Caulerpaceae, Chlorophyta). *Journal of Phycology* 50: 32–54. doi: 10.1111/jpy.12132.
- Berger, S., U. Fettweiss, S. Gleissberg, L. B. Liddle, U. Richter, H. Sawitzky, and G. C. Zuccarello. 2003. 18S rDNA Phylogeny and Evaluation of Cap Development in Polyphysaceae (Formerly Acetabulariaceae; Dasyladales, Chlorophyta). *Phycologia* 42: 506–561. doi: 10.2216/i0031-8884-42-5-506.1.
- Berthold, G. 1882. Über die Vertheilung der Algen im Golf von Neapel nebst einem Verzeichnis der bisher baselbst beobachteten Arten. *Mitteilungen der Zoologischen Station zu Neapel* 3: 393–536, 3 tables.
- Bessey, C. E. 1907. A Synopsis of Plant Phyla. *University Studies of the University of Nebraska* 7: 275–373.
- Bittner, L., C. E. Payri, A. Couloux, C. Cruaud, B. de Reviers, and F. Rousseau. 2008. Molecular Phylogeny of the Dictyotales and their Position within the Brown Algae, Based on Nuclear, Plastidial and Mitochondrial Sequence Data. *Molecular Phylogenetics and Evolution* 49(1): 211–226. doi: 10.1016/j.ympev.2008.06.018.
- Bivona-Bernardi, A. de. 1822. *Scinaia* Alga marina novum genus. *L'Iride, Giornale di Scienze, Lettere, ed Arti per la Sicilia* 1: 231–233, 1 pl.
- Bizzozero, G. 1885. *Flora Veneto Crittogamica*. Part 2. Pp. 1–255. Padua: Seminario.
- Blackman, F. F., and A. G. Tansley. 1902. A Revision of the Classification of the Green Algae. *New Phytologist* 1: 133–144. doi: 10.1111/j.1469-8137.1902.tb06576.x.
- Blair, S. M. 1983. Taxonomic Treatment of the *Chaetomorpha* and *Rhizoclonium* Species (Cladophorales; Chlorophyta) in New England. *Rhodora* 85(842): 175–211.
- Bliding, C. 1963. A Critical Survey of European Taxa in Ulvales, Part I: *Capsosiphon*, *Percursaria*, *Blidingia*, *Enteromorpha*. *Opera Botanica* 8(3): 1–160.
- Blomster, J., C. A. Maggs, and M. J. Stanhope. 1998. Molecular and Morphological Analysis of *Enteromorpha intestinalis* and *E. compressa* (Chlorophyta) in the British Isles. *Journal of Phycology* 34:319–340. doi: 10.1046/j.1529-8817.1998.340319.x.
- Blomster, J., C. A. Maggs, and M. J. Stanhope. 1999. Extensive Intraspecific Morphological Variation in *Enteromorpha muscoides* (Chlorophyta) Revealed by Molecular Analysis. *Journal of Phycology*, 35: 575–586. doi: 10.1046/j.1529-8817.1999.3530575.x.
- Boedeker, C., F. Leliaert, and G. C. Zuccarello. 2016. Molecular Phylogeny of the Cladophoraceae (Cladophorales, Ulvophyceae) with the Resurrection of *Acrocladus* Nägeli and *Willeella* Borgesen, and the Description of *Lurbica* gen. nov. and *Pseudorhizoclonium* gen. nov. *Journal of Phycology* 52: 905–928. doi: 10.1111/jpy.12457.
- Boo, G. H., J. R. Hughey, K. A. Miller, and S. M. Boo. 2016. Mitogenomes from Type Specimens, a Genotyping Tool for Morphologically Simple Species: Ten Genomes of Agar-producing Red Algae. *Scientific Reports* 6: 35337. doi: 10.1038/srep35337.
- Borgesen, F. 1905. Contributions à la connaissance du genre *Siphonocladus* Schmitz. *Overview over det Kongelige Danske Videnskabernes Selskabs Forhandlingar* 3: 259–291.
- Borgesen, F. 1910. Some New or Little Known West Indian Florideae, II. *Botanisk Tidsskrift* 30: 177–207.
- Borgesen, F. 1912. Some Chlorophyceae from the Danish West Indies, II. *Botanisk Tidsskrift* 32: 241–273.
- Borgesen, F. 1914. The Marine Algae of the Danish West Indies, Pt. 2: Phaeophyceae. *Dansk Botanisk Arkiv* 2(2): 1–66+[2].
- Borgesen, F. 1915. The Marine Algae of the Danish West Indies, Pt. III: Rhodophyceae (1). *Dansk Botanisk Arkiv* 3(1a): 1–80.
- Borgesen, F. 1917. The Marine Algae of the Danish West Indies, Pt. III: Rhodophyceae (3). *Dansk Botanisk Arkiv* 3(1c): 145–240.
- Borgesen, F. 1924a. Marine Algae from Easter Island. In *The Natural History of Juan Fernandez and Easter Island*, Volume 2, C. Skottsberg, ed., pp. 247–309. Uppsala: Almqvist & Wiksells.
- Borgesen, F. 1924b. Marine Algae. In *Plants from Beata Island, St. Domingo*, collected by C. H. Ostenfeld, Botanical Results of the Dana-Expedition 1921–22, No. 1. *Dansk Botanisk Arkiv* 4(7): 14–35.
- Borgesen, F. 1925. The Marine Algae from the Canary Islands, Especially from Teneriffe and Gran Canaria, I: Chlorophyceae. *Det Kongelige Danske Videnskabernes Selskab, Biologiske Meddelelser*, 5(3): 1–123.
- Borgesen, F. 1930. Some Indian Green and Brown Algae, Especially from the Shores of the Presidency of Bombay. *Journal of the Indian Botanical Society* 9: 151–174, pls. I–II.
- Borgesen, F. 1931. Some Indian Rhodophyceae, Especially from the Shores of the Presidency of Bombay. *Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew* 1931: 1–24, pls. 1–2.
- Borgesen, F. 1932. A Revision of Forsskål's Algae Mentioned in *Flora Aegyptiaco-Arabica* and Found in His Herbarium in the Botanical Museum of the University of Copenhagen. *Dansk Botanisk Arkiv* 8(2): 1–14, 1 pl.
- Borgesen, F. 1934. Some Marine Algae from the Northern Part of the Arabian Sea with Remarks on Their Geographical Distribution. *Det Kongelige Danske Videnskabernes Selskab, Biologiske Meddelelser* 11(6): 1–72.
- Borgesen, F. 1940. Some Marine Algae from Mauritius, I: Chlorophyceae. *Det Kongelige Danske Videnskabernes Selskab, Biologiske Meddelelser* 15(4): 1–81, 3 pls.
- Bornet, É. 1859. Description d'un nouveau genre de Floridées des côtes de France. *Annales des Sciences Naturelles, Botanique, Série 4*, 11: 80–92, pls. 1–2.
- Bory de Saint-Vincent, J. B. G. M. 1823. *Confervées*. In *Dictionnaire classique d'histoire naturelle, Volume 4: CHI-COZ*, pp. 391–393. Paris: Rey et Gravier.
- Bory de Saint-Vincent, J. B. G. M. 1825. Hydroclathre. In *Dictionnaire classique d'histoire naturelle, Vol. 8: H–INV*, pp. 419–420, Paris: Rey et Gravier.
- Bory de Saint-Vincent, J. B. G. M. 1827a. *Padina*. In *Dictionnaire classique d'histoire naturelle, Volume 12: NUA–PAM*, pp. 589–591. Paris: Rey et Gravier.
- Bory de Saint-Vincent, J. B. G. M. 1827b. *Histoire naturelle, Botanique, Volume 1: Cryptogamie*, Parts 1, 2, *Voyage autour du monde, exécuté par ordre du Roi, sur la corvette de sa Majesté, La Coquille, pendant les années 1822, 1823, 1824 et 1825*, L. I. Duperrey, ed., Part 1, [iii]+49 pp., 6 pls.; Part 2, pp. 49–96, 7 pls. Paris: Arthus Bertrand.

- Bory de Saint-Vincent. J. B. G. M. 1828. *Histoire naturelle, Botanique, Volume 1: Cryptogamie*, Part 4, *Voyage autour du monde, exécuté par ordre du Roi, sur la Corvette de sa Majesté, La Coquille, pendant les années 1822, 1823, 1824 et 1825*, L. I. Duperrey, ed., pp. 137–200, 6 pls. Paris: Arthus Bertrand.
- Bory de Saint-Vincent. J. B. G. M. 1829. *Histoire naturelle, Botanique, Volume 1: Cryptogamie*, Parts 5, 6, *Voyage autour du monde, exécuté par ordre du Roi, sur la Corvette de sa Majesté, La Coquille, pendant les années 1822, 1823, 1824 et 1825*, L. I. Duperrey, ed., Part 5, pp. 201–248, 7 pls.; Part 6, pp. 249–301, 6 pls. Paris: Arthus Bertrand.
- Boudouresque, C.-F., E. Coppejans, and J. Marcot. 1976. Un nouveau genre de Peyssonneliaceae, *Metapeysonnelia* (Rhodophyta). *Phycologia* 15: 283–288. doi: 10.2216/i0031-8884-15-3283.1.
- Brand, F. 1904. Über die Anheftung der *Cladophoraceen* und über verschiedene polynesische Formen dieser Familie. *Beihefte zum Botanischen Centralblatt* 18(1): 165–193, pls. V–VI.
- Brodie, J., C. A. Maggs, and D. M. John. 2007. *Green Seaweeds of Britain and Ireland*. pp. [i–v], vi–xii, 1–242. London: British Phycological Society.
- Brummitt, R. K., and C. E. Powell. 1992. *Authors of Plant Names: A List of Authors of Scientific Names of Plants, with Recommended Standard Forms of Their Names, Including Abbreviations*. 732 pp. Kew, Richmond, Surrey, UK: Royal Botanic Gardens. [For searchable online database: <http://www.ipni.org/ipni/authorsearchpage.do>]
- Brusca, R. C. 2010. *The Gulf of California: Biodiversity and Conservation*. 354 pp. Tucson: University of Arizona Press.
- Brusca, R. C., L. T. Findley, P. A. Hastings, M. E. Hendrickx, J. Torre-Cosio, and A. M. van der Heiden. 2005. Macrofaunal Diversity in the Gulf of California. In *Biodiversity, Ecosystems, and Conservation in Northern Mexico*, J.-L. E. Cartron, G. Ceballos, and R. S. Felger, eds., pp. 179–202. New York: Oxford University Press.
- Bucher, K. E., and J. N. Norris. 2014a. Ceramiales: Callithamniaceae, Ceramiaceae, Dasyaceae, Delesseriaceae, Rhodometelaceae, Sarcomeniaceae, Spyridiaceae, and Wrangeliaceae. In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 149–304. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Bucher, K. E., and J. N. Norris. 2014b. Cryptonematales: Tsengiaceae. In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 426–429. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Bucher, K. E., and J. N. Norris. 2014c. Nemastomatales: Nemastomataceae and Schizymeniaceae. In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 429–436. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Cabioch, J. 1972. Etude sur les Corallinales, II: La morphogenese: Consequences systematiques et phylogenetiques. *Les Cahiers de Biologie Marine* 13: 137–288, pls. 1–12.
- Calderon, M. S., K. A. Miller, T. H. Seo, and S. M. Boo. 2016. Transfer of Selected *Abnfeltiopsis* (Phyllophoraceae, Rhodophyta) Species to the Genus *Besa* and Description of *Schottera koreana* sp. nov. *European Journal of Phycology* 51(4): 1–13 (online version: 5 Aug 2016); 431–443 (print version: Nov 2016). doi: 10.1080/09670262.2016.1201701.
- Carballo, J. L., C. Olabarria, and T. Garza-Ozuna. 2002. Analysis of Four Macroalgal Assemblages Along the Pacific Mexican Coast During and After the 1997–98 El Niño. *Ecosystems* 5: 749–760.
- Cartron, J.-L. E., G. Ceballos, and R. S. Felger. 2005. *Biodiversity, Ecosystems, and Conservation in Northern Mexico*. xvi+514 pp. New York: Oxford University Press.
- Casas-Valdéz, M. M., M. B. Cruz-Ayala, and G. E. López. 1997. Algas marinas bentónicas más abundantes en Bahía de La Paz, B.C.S. In *La Bahía de la Paz, Investigación y Conservación*, J. Urbán R. and M. Ramírez R., eds., pp. 83–92. La Paz: Universidad Autónoma de Baja California Sur.
- Cavalier-Smith, T. 1986. The Kingdom Chromista: Origin and Systematics. In *Progress in Phycological Research, Volume 4*, F. E. Round and D. J. Chapman, eds., pp. 309–347. Bristol, UK: Biopress Ltd.
- Cavalier-Smith, T. 1998. A Revised Six-Kingdom System of Life. *Biological Reviews of the Cambridge Philosophical Society* 73(3): 203–266. doi: 10.1017/S0006323198005167.
- Cavalier-Smith, T., and E. E. Chao. 1996. 18S rRNA Sequence of *Heterosigma carterae* (Raphidophyceae), and the Phylogeny of Heterokont Algae (Ochrophyta). *Phycologia* 35: 500–510. doi: 10.2216/i0031-8884-35-6-500.1.
- Cecere, E., M. Cormaci, G. Furnari, A. Petrocilli, O. Saracino, and D. Serio. 1996. Benthic Algal Flora of Cheradi Islands (Gulf of Taranto, Mediterranean Sea). *Nova Hedwigia* 62: 191–214.
- Chamberlain, Y. M. 1983. Studies in the Corallinales with Special Reference to *Fosliella* and *Pneophyllum* in the British Isles. *Bulletin of the British Museum (Natural History)*, Botany 11: 291–463.
- Chamberlain, Y. M. 1991. Historical and Taxonomic Studies in the Genus *Titano-derma* (Rhodophyta, Corallinales) in the British Isles. *Bulletin of the British Museum (Natural History)*, Botany 21: 1–80.
- Chamberlain, Y. M. 1993. Observations on the Crustose Coralline Red Alga *Spongites yendoii* (Foslie) *comb. nov.* in South Africa and Its Relationship to *S. decipiens* (Foslie) *comb. nov.* and *Lithophyllum natalense* Foslie. *Phycologia* 32: 100–115. doi: 10.2216/i0031-8884-32-2-100.1.
- Chamberlain, Y. M., and L. M. Irvine. 1994. Hapalidiaceae subfam. Choreone-matoideae Woelkerling. In *Volume 1: Rhodophyta, Part 2B: Corallinales, Hildenbrandiales*, L. M. Irvine and Y. M. Chamberlain, eds., pp. 33–36, *Seaweeds of the British Isles*. London: British Museum (Natural History).
- Chang, C. F., and B.-M. Xia. 1978. A New Species of *Gastroclonium* from the Xisha Islands, Guangdong Province, China. *Oceanology and Limnology Sinica* 9: 209–214.
- Chapman, V. J. 1939. Some Algal Complexities. *Rhodora* 41: 19–28.
- Chappell, D. F., C. J. O'Kelly, L. W. Wilcox, and G. L. Floyd. 1990. Zoospore Flagellar Apparatus Architecture and the Taxonomic Position of *Phaeophila dendroides* (Ulvophyceae, Chlorophyta). *Phycologia* 29: 515–538. doi: 10.2216/i0031-8884-29-4-515.1.
- Chávez-Barrera, M. L. 1972 [1971]. Una nueva especie de corallinales: *Janía buer-tae* (Rhodoph., Florid.). *Ciencia, México* 27(4–5): 133–134.
- Chihara, M. 1969. *Pseudogloiophloeia okamurai* (Setchell) *comb. nov.* and *Ishige sinicola* (Setchell et Gardner) *comb. nov.* *Bulletin of the Japanese Society of Phycology* 17: 1–4.
- Cho, G. Y., S. H. Lee, and S. M. Boo. 2004. A New Brown Algal Order, Ishige-ales (Phaeophyceae), Established on the Basis of Plastid Protein-Coding *rbcL*, *psaA*, and *psbA* Region Comparisons. *Journal of Phycology* 40: 921–936. doi: 10.1111/j.1529-8817.2004.03160.x.
- Cho, T. O., S. M. Boo, M. H. Hommersand, C. A. Maggs, L. J. McIvor, and S. Fredericq. 2008. *Gayliella* gen. nov. in the Tribe Ceramieae (Ceramiales, Rhodophyta) Based on Molecular and Morphological Evidence. *Journal of Phycology* 44: 721–738. doi: 10.1111/j.1529-8817.2008.00505.x.
- Cho, T. O., and R. Riosmena-Rodríguez. 2008. *Ceramium periconicum* sp. nov. (Ceramiales, Rhodophyta): A New Subtidal Species from Baja California Sur, Mexico. *Botanica Marina* 51: 307–312. doi: 10.1515/BOT.2008.039.
- Cho, T. O., B. Y. Won, and S. Fredericq. 2005. *Antithamnion nipponicum* (Ceramiales, Rhodophyta), Incorrectly Known as *A. pectinatum* in Western Europe, is a Recent Introduction along the North Carolina and Pacific Coasts of North America. *European Journal of Phycology* 40(4): 323–335. doi: 10.1080/09670260500364393.
- Choi, H.-G., M.-S. Kim, M. D. Guiry, and G. W. Saunders. 2001. Phylogenetic Relationships of *Polysiphonia* (Rhodomelaceae, Rhodophyta) and Its Relatives Based on Anatomical and Nuclear Small-Subunit rDNA Sequence Data. *Canadian Journal of Botany* 79: 1465–1476. doi: 10.1139/cjb-79-12-1465.
- Choi, H.-G., G. T. Kraft, I. K. Lee, and G. W. Saunders. 2002. Phylogenetic Analyses of Anatomical and Nuclear SSU rDNA Sequence Data Indicate That the Dasyaceae and Delesseriaceae (Ceramiales, Rhodophyta) Are Polyphyletic. *European Journal of Phycology* 37: 551–569. doi: 10.1017/S0967026202003967.
- Christensen, T. 1978. Annotations to a Textbook of Phycology. *Botanisk Tidsskrift* 73: 65–70.
- Clayden, S. L., and G. W. Saunders. 2010. Recognition of *Rubrointrusa membranacea* gen. et comb. nov., *Rhodonematella subimmersa* gen. et comb. nov. (with a Reinterpretation of the Life History) and the Meiodiscaceae fam. nov. within the Palmariaceae (Rhodophyta). *Phycologia* 49: 283–300. doi: 10.2216/PH09-43.1.
- Clayden, S. L., and G. W. Saunders. 2014. A Study of Two *Acrochaetium* complexes in Canada with Distinction of *Rhododrewia* gen. nov. (Acrochaetiales, Rhodophyta). *Phycologia* 53(3): 221–232. doi: 10.2216/13-224.1.
- Clayton, M. N. 1974. Studies on the Development, Life History and Taxonomy of Ectocarpales (Phaeophyta) in Southern Australia. *Australian Journal of Botany* 22: 743–813. doi: 10.1071/BT9740743.
- Collins, F. S. 1909. New Species of *Cladophora*. *Rhodora* 11(122): 17–20, pl. 78.
- Collins, F. S., and A. B. Hervey. 1917. The Algae of Bermuda. *Proceedings of the American Academy of Arts and Sciences* 53: 1–195. doi: 10.2307/20025740.
- Collins, F. S., I. Holden, and W. A. Setchell. 1899. *Phycotheca boreali-americana: A Collection of Dried Specimens of the Algae of North America*. Exsiccata Fascicle 13, nos. 601–650. Malden, Mass.: Authors.

- Collins, F. S., I. Holden, and W. A. Setchell. 1903. *Phycotheca boreali-americana: A Collection of Dried Specimens of the Algae of North America*. Exsiccata Fascicle 23, nos. 1101–1150. Malden, Mass.: Authors.
- CONABIO (Comisión Nacional para el Conocimiento y Uso de la Biodiversidad), The Nature Conservancy, Comisión Nacional de Áreas Naturales Protegidas (CONANP), and Pronatura México. N.D. Ficha técnica para la evaluación de los sitios prioritarios para la conservación de los ambientes costeros y oceánicos de México: Grandes Islas del Golfo de California. http://www.conabio.gob.mx/gap/images/d/de/18_Grandes_Islas_Golfo_California.pdf (accessed 7 July 2017).
- Conklin, K. Y., and A. R. Sherwood. 2012. Molecular and Morphological Variation of the Red Alga *Spyridia filamentosa* (Ceramiales, Rhodophyta) in the Hawaiian Archipelago. *Phycologia* 51: 347–357. doi: 10.2216/10-26.1.
- Cormaci, M., and G. Furnari. 1987. Nomenclatural Notes on Some Mediterranean Algae. *Taxon* 36: 755–758. doi: 10.2307/1221130.
- Cormaci, M., and G. Furnari. 1991. The Distinction of *Ceramium giacconeii* sp. nov. (Ceramiales, Rhodophyta) in the Mediterranean Sea from *Ceramium cingulatum*. *Cryptogamie, Algologie* 12: 43–53.
- Cormaci, M., G. Furnari, and G. Alongi. 2014. Flora marina bentonica del Mediterraneo: Chlorophyta. *Bollettino dell'Accademia Gioenia di Scienze Naturali di Catania* 47: 11–436.
- Cormaci, M., G. Furnari, and F. Pizzuto. 1994. Taxonomic and Nomenclatural Notes on *Anotrichium tenue* and Related Species (Ceramiales, Rhodophyta). *Taxon* 43: 633–637. doi: 10.2307/1223549.
- Couceiro, L., J. Cremades, and R. Barreiro. 2011. Evidence for Multiple Introductions of the Pacific Green Alga *Ulva australis* Areschoug (Ulvales, Chlorophyta) to the Iberian Peninsula. *Botanica Marina* 54: 391–402. doi: 10.1515/bot.2011.044.
- Cribb, A. B. 1995. Microscopic Green Algae from Heron Island Reef and Adjacent Reefs. *Proceedings of the Royal Society Queensland* 105(1): 19–41.
- Cronquist, A. 1960. The Divisions and Classes of Plants. *The Botanical Review* 26: 425–482. doi: 10.1007/BF02940572.
- Crouan, P. L., and H. M. Crouan. 1835. Observations microscopiques sur la genre *Mesogloia* Agardh. *Annales des Sciences Naturelles, Botanique, Série 2*, 3: 98–99.
- Crouan, P. L., and H. M. Crouan. 1844. Observations sur le genre *Peyssonellia* Dne. *Annales des Sciences Naturelles, Botanique, Troisième série* 2: 367–368, pl. 11.
- Crouan, P. L., and H. M. Crouan. 1859. Notice sur quelques espèces et genres nouveaux d'algues marines de la rade de Brest. *Annales des Sciences Naturelles, Botanique, Série 4*, 12: 288–292, pl. 22.
- Cruz-Ayala, M. B., R. A. Núñez-López, and G. E. López. 2001. Seaweeds in the Southern Gulf of California. *Botanica Marina* 44: 187–197. doi: 10.1515/BOT.2001.025.
- Dalen, J. L., and G. W. Saunders. 2007. A Review of the Red Algal Genus *Leptofauchea* (Faucheaceae, Rhodymeniales), Including the Description of *L. chilensis* sp. nov. *Phycologia* 46: 198–213. doi: 10.2216/06-41.1.
- Danemann, G. D., and E. Ezcurra, eds. 2008. *Bahía de Los Ángeles: Recursos Naturales y Comunidad Línea base 2007*. 740 pp. Ensenada, Mexico: Pronatura Noroeste A.C.
- Dangeard, P. 1931. *L'Ulva lens* de Crouan et l'*Ulva setchellii* sp. nov. *Bulletin de la Société Botanique de France* 78: 312–318, pl. 1.
- Davis, P. H., and V. H. Heywood. 1963. *Principles of Angiosperm Taxonomy*. xx+556 pp. Edinburgh & London: Oliver & Boyd. [Reprinted: 1991, Malabar, Florida: Krieger Publ. Co.]
- Dawson, E. Y. 1941. A Review of the Genus *Rhodymenia* with Descriptions of New Species. *Allan Hancock Pacific Expeditions* 3(8): [ii]+123–181.
- Dawson, E. Y. 1944. The Marine Algae of the Gulf of California. *Allan Hancock Pacific Expeditions* 3(10): [v]+189–453.
- Dawson, E. Y. 1945. Marine Algae Associated with Upwelling along the Northwestern Coast of Baja California, Mexico. *Bulletin of the Southern California Academy of Science* 44(2): 57–71.
- Dawson, E. Y. 1946 [1945]. New and Unreported Marine Algae from Southern California and Northwestern Mexico. *Bulletin of the Southern California Academy of Science* 44: 75–91.
- Dawson, E. Y. 1949a. Studies on Northeast Pacific Gracilariaceae. *Allan Hancock Foundation Publications Occasional Paper* 7: 1–104.
- Dawson, E. Y. 1949b. Contributions toward a Marine Flora of the Southern California Channel Islands, I–III. *Allan Hancock Foundation Publications Occasional Paper* 8: 1–57.
- Dawson, E. Y. 1950a. A Review of *Ceramium* along the Pacific Coast of North America with Special Reference to Its Mexican Representatives. *Farlowia* 4: 113–138.
- Dawson, E. Y. 1950b. Notes on Pacific Coast Marine Algae, IV. *American Journal of Botany* 37: 149–158. doi: 10.2307/2437966.
- Dawson, E. Y. 1950c. Notes on Pacific Coast Marine Algae, V. *American Journal of Botany* 37: 337–344. doi: 10.2307/2438100.
- Dawson, E. Y. 1953. Marine Red Algae of Pacific Mexico, Pt. 1: Bangiales to Corallinaceae subf. Corallinoideae. *Allan Hancock Pacific Expeditions* 17(1): 1–239.
- Dawson, E. Y. 1954a. The Marine Flora of Isla San Benedicto Following the Volcanic Eruption of 1952–1953. *Allan Hancock Foundation Publications Occasional Paper* 16: 1–25.
- Dawson, E. Y. 1954b. Marine Red Algae of Pacific Mexico, Pt. 2: Cryptonemiales (continued). *Allan Hancock Pacific Expeditions* 17(2): 240–397+[398]–409.
- Dawson, E. Y. 1954c [1953]. Notes on Pacific Coast Marine Algae, VI. *Wasmann Journal of Biology* 11(3): 323–351.
- Dawson, E. Y. 1957. An Annotated List of Marine Algae from Eniwetok Atoll, Marshall Islands. *Pacific Science* 11: 92–132.
- Dawson, E. Y. 1958. Notes on Pacific Coast Marine Algae, VII. *Bulletin of the Southern California Academy of Sciences* 57: 65–80.
- Dawson, E. Y. 1959a. Marine Algae from the 1958 Cruise of the *Stella Polaris* in the Gulf of California. *Los Angeles County Museum Contributions in Science* 27: 1–39.
- Dawson, E. Y. 1959b. William H. Harvey's Report on the Marine Algae of the United States North Pacific Exploring Expedition of 1853–1856. *Pacific Naturalist* 1(5): 3–40.
- Dawson, E. Y. 1960a. New Records of Marine Algae from Pacific Mexico and Central America. *Pacific Naturalist* 1(20): 31–52.
- Dawson, E. Y. 1960b. Marine Red Algae of Pacific Mexico, Part 3: Cryptonemiales; Corallinaceae subf. Melobesioideae. *Pacific Naturalist* 2(1): 1–125.
- Dawson, E. Y. 1961a. Marine Red Algae of Pacific Mexico, Pt. 4: Gigartinales. *Pacific Naturalist* 2(5): 191–343.
- Dawson, E. Y. 1961b. Plantas marinas de la zona de las mares de El Salvador (Intertidal marine plants of El Salvador). *Pacific Naturalist* 2(8): 389–461.
- Dawson, E. Y. 1961c. A Guide to the Literature and Distributions of Pacific Benthic Algae from Alaska to the Galápagos Islands. *Pacific Science* 15(3): 370–461.
- Dawson, E. Y. 1962a. Marine Red Algae of Pacific Mexico, Pt. 7: Ceramiales: Ceramiaceae, Delesseriaceae. *Allan Hancock Pacific Expeditions* 26(1): 1–207.
- Dawson, E. Y. 1962b. Additions to the Marine Flora of Costa Rica and Nicaragua. *Pacific Naturalist* 3(13): 375–395.
- Dawson, E. Y. 1963a. Marine Red Algae of Pacific Mexico, Pt. 6: Rhodymeniales. *Nova Hedwigia* 5: 437–476, pls. 77–95.
- Dawson, E. Y. 1963b. Marine Red Algae of Pacific Mexico, Pt. 8: Ceramiales; Dasyaceae, Rhodomelaceae. *Nova Hedwigia* 6: 401–481, pls. 126–171.
- Dawson, E. Y. 1966a. *Marine Algae in the Vicinity of Puerto Peñasco, Sonora, Mexico*. Gulf of California Field Guide Series, No. 1. ii+57 pp., map. Tucson: University of Arizona.
- Dawson, E. Y. 1966b. New Records of Marine Algae from the Gulf of California. *Journal of the Arizona Academy of Sciences* 4: 55–66. doi: 10.2307/40022371.
- Dawson, E. Y., C. Acleto O., and N. Foldvik. 1964. The Seaweeds of Peru. *Beihfte zur Nova Hedwigia* 13: 111 pp., 81 pls.
- Dawson, E. Y., and M. Neushul. 1966. New Records of Marine Algae from Anacapa Island, California. *Nova Hedwigia* 12: 173–187, pls. 41–43.
- Dawson, E. Y., M. Neushul, and R. D. Wildman. 1960. Seaweeds Associated with Kelp Beds along Southern California and Northwestern Mexico. *Pacific Naturalist* 1(14): 1–81.
- Decaisne, J. 1841. Plantes de l'Arabie Heureuse, recueillies par M. P.-E. Botta et décrites par M. J. Decaisne. *Archive du Muséum d'Histoire Naturelle, Paris* 2: 89–199, pls. 5–7.
- Decaisne, J. 1842a. Essais sur une classification des Algues et des Polypiers calcifères de Lamouroux. *Mémoire sur les Corallines ou Polypiers calcifères. Annales des Sciences Naturelles, Botanique, Série 2*, 17: 297–380.
- Decaisne, J. 1842b. Essais sur une classification des Algues et des Polypiers calcifères de Lamouroux. [2nd part.] *Mémoire sur les Corallines ou Polypiers calcifères. Annales des Sciences Naturelles, Botanique, Série 2*, 18: 96–128.
- De Clerck, O. 2003. The Genus *Dictyota* (Dictyotales, Phaeophyta) in the Indian Ocean. *Opera Botanica Belgica* 13: 1–205.
- De Clerck, O., B. Gavio, S. Fredericq, I. Bárbara, and E. Coppejans. 2005. Systematics of *Grateloupia filicina* (Halymeniaceae, Rhodophyta), Based on *rbcL* Sequence Analyses and Morphological Evidence, Including the Reinstatement of *G. minima* and the Description of *G. capensis* sp. nov. *Journal of Phycology* 41: 391–410. doi: 10.1111/j.1529-8817.2005.04189.x.
- De Clerck, O., F. Leliaert, H. Verbruggen, C. E. Lane, J. C. De Paula, D. I. Payo, and E. Coppejans. 2006. A Revised Classification of the Dictyotaceae (Dictyotales,

- Phaeophyceae) Based on *rbcL* and 26S Ribosomal DNA Sequence Data Analyses. *Journal of Phycology* 42: 1271–1288. doi: 10.1111/j.1529-8817.2006.00279.x.
- Delépine, R., and A. Asensi. 1975. *Asteronema* nov. gen. nouveau genre de Phéophycée australe. *Bulletin de la Société Botanique de France* 122: 295–304. doi: 10.1080/00378941.1975.10835618.
- Delile, A. R. 1813. *Description de l'Égypte our recueille et des observations et des recherches qui ont été faites en Égypte pendant l'expédition de l'armée française, publié par les ordres de Sa Majesté l'Empereur Napoléon le Grand. Histoire naturelle*, Volume 2 (fascicle 2 'troisième livraison'), pp. 145–320. Paris: Imprimerie Impériale.
- Denizot, M. 1968. *Les algues Floridiées encroustantes (à l'exclusion des Corallinacées)*. 310 pp. Paris: Laboratoire de Cryptogamie, Muséum national d'Histoire naturelle.
- Derbès, A. A., and A.-J.-J. Solier. 1850. Sur les organes reproducteurs des algues. *Annales des Sciences Naturelles, Botanique, Série 3*, 14: 261–282, pls. 32–37.
- Derbès, A. A., and A.-J.-J. Solier. 1851. Algues. In *Supplément au Catalogue des plantes qui croissent naturellement aux environs de Marseille*, J. L. M. Castagne, ed., pp. 93–121. Aix, France: Nicot et Pardigon.
- Desvaux, N. A. 1809. Observations sur le genre *Fluggea*, Rich. (*Slateria*, Desv.). *Journal de Botanique (Desvaux)* 1(4): 243–246.
- De Toni, Giovanni B. 1897. *Sylloge Floridearum omnium hucusque cognitarum, Volume 4: Florideae, Sectio I, Sylloge Algarum omnium hucusque cognitarum*. Pp. [i]–xx+[i]–lxi+[i]–[1]–388. Padua: Sumptibus auctoris.
- De Toni, Giovanni B. 1903. *Sylloge Floridearum omnium hucusque cognitarum, Volume 4: Florideae, Sectio 3, Sylloge Algarum omnium hucusque cognitarum*. pp. [i], frontispiece, [iii–v]+775–1525. Padua: Author.
- De Toni, Giuseppe. 1936. *Noterelle di nomenclatura algologica, VII: primo elenco di Floridee omonime*. [8] pp. [unnumbered]. Brescia: Author.
- Díaz-Martínez, S., G. C. Zuccarello, G. A. Salazar-Chávez, F. F. Pedroche, and A. G. Ávila-Ortiz. 2016. Species of *Padina* (Dictyotales, Phaeophyceae) in Tropical Mexican Waters Based on Molecular-Assisted Taxonomy. *Phycologia* 55: 673–687. doi: 10.2216/16-15.1.
- Díaz-Tapia, P., C. A. Maggs, J. A. West, and H. Verbruggen. 2017. Analysis of Chloroplast Genomes and a Supermatrix Inform Reclassification of the Rhodomelaceae (Rhodophyta). *Journal of Phycology* 53: 1–18. doi: 10.1111/jpy.12553.
- Díaz-Tapia, P., L. McIvor, D. W. Freshwater, H. Verbruggen, M. J. Wynne, and C. A. Maggs. 2017. The Genera *Melanothamnus* Bornet & Falkenberg and *Vertebrata* S. F. Gray Constitute Well-defined Clades of the Red Algal Tribe Polysiphoniae (Rhodomelaceae, Ceramiales). *European Journal of Phycology*, 52(1): 1–30. doi: 10.1080/09670262.2016.1256436.
- Dickie, G. 1874. On the Algae of Mauritius. *Journal of the Linnean Society of London, Botany* 14: 190–202.
- Dillenius, J. J. 1742 [1741]. *Historia Muscorum; in Qua Circiter Sexcentae Species Veteres et Novae ad Sua Genera Relatae Distribuntur et Iconibus Geminis Illustrantur, cum Appendice et Indice Synonymorum*. [i–xvi]+1–576 pp., pls. I–LXXXV. Oxford: E. Theatro Sheldonian O.
- Dixon, P. S. 1962. Taxonomic and Nomenclatural Notes on the Florideae, III. *Botaniska Notiser* 115: 245–260.
- Dixon, P. S., and L. M. Irvine. 1977a. Miscellaneous Notes on Algal Taxonomy and Nomenclature, IV. *Botaniska Notiser* 120: 137–141.
- Dixon, P. S., and L. M. Irvine. 1977b. *Seaweeds of the British Isles. Volume 1: Rhodophyta, Part 1: Introduction, Nemaliales, Gigartinales*. xi+252 pp. London: British Museum (Natural History).
- Dorr, L. J., and D. H. Nicolson. 2009. *Taxonomic Literature: A Selective Guide to Botanical Publications and Collections with Dates, Commentaries and Types. Supplement VIII: Fres–G*. 550 pp. Regnum Vegetabile vol. 150. Rugell, Liechtenstein: A. R. G. Gantner Verlag K.G.
- Doty, M. S. 1978. *Izziella abbottiae*, a New Genus and Species among the Gelatinous Rhodophyta. *Phycologia* 17: 33–39. doi: 10.2216/0031-8884-17-1-33.1.
- Doty, M. S., and E. G. Meñez. 1960. *Tiffaniella*, a New Genus in the Ceramiales. *Transactions of the American Microscopical Society* 79(2): 135–144. doi: 10.2307/3224079.
- Doweld, A. B. 2012. "(2067) Proposal to Conserve the Name *Melobesiaceae* against *Hapalidiaceae* and *Lithothamniaceae* (Rhodophyceae)." In *Proposals to Conserve or Reject Names*, J. McNeill, S. A. Redhead, and J. H. Wiersema, eds. *Taxon* 61: 680–681.
- Drew, K. M. 1956. *Conferva ceramicola* Lyngbye. *Botanisk Tidsskrift* 53: 67–74.
- Duby, J. É. 1830. *Aug. Pyrami de Candolle Botanicon gallicum sen synopsis plantarum in flora gallica descriptorum*. Editio secunda. Ex herbariis et schedis Candollianis propriis digestum a J. É. Duby V.D.M. Pars secunda, plantas cellulares continens. pp. [i–vi], [545]–1068, [i]–lviii. Paris: Ve Desray.
- Ducker, S. C. 1967. The Genus *Chlorodesmis* (Chlorophyta) in the Indo-Pacific Region. *Nova Hedwigia* 13: 145–182.
- Dumortier, B. C. J. 1822. *Commentationes botanicae. Observations botaniques, dédiées à la Société d'Horticulture de Tournay*. [i]+[1]–116+[1] pp., 1 table. Tournay: Imprimerie de Ch. Casterman-Dien.
- Ellis, J. 1768. Extract of a Letter from John Ellis, Esquire, F.R.S. to Dr. Linnaeus of Upsala, F.R.S. on the Animal Nature of the Genus of Zoophytes, called *Corallina*. *Philosophical Transactions of the Royal Society of London* 57: 404–425, pls. XVII, XVIII.
- Ellis, J., and D. [C.] Solander. 1786. *The Natural History of Many Curious and Uncommon Zoophytes, Collected from Various Parts of the Globe by the Late John Ellis . . . Systematically Arranged and Described by the Late Daniel Solander. . .* [i–v]+vi–xii+[1]–208 pp., 63 pls. London: Benjamin White & Son and Peter Elmsly.
- Endlicher, S. L. 1843. *Genera Plantarum Secunum Ordines Naturales Disposita. Mantissa Botanica Altera, Sistens Generum Plantarum Supplementum Tertium*. 111+[vi] pp. Vienna: Fr. Beck.
- Enriquez-Andrade, R., G. Anaya-Reyna, J. C. Barrera-Guevara, M. A. Carvajal-Moreno, M. E. Martínez-Delgado, J. Vaca-Rodríguez, and C. Valdés-Casillas. 2005. An Analysis of Critical Areas for Biodiversity Conservation in the Gulf of California Region. *Ocean and Coastal Management* 48: 31–50. doi: 10.1016/j.ocecoaman.2004.11.002.
- Esper, E. J. C. 1800. *Icones fucorum cum characteribus systematicis, synonymis (sic) auctorum et descriptionibus novarum specierum. Abbildungen der Tange mit beygefügten systematischen Kennzeichen, Anführungen der Schriftsteller, und Beschreibungen der neuen Gattungen*. Vol. I, Pt. 4, pp. [i]+167–217+[1], pls. LXXXVIII–CXI. Nürnberg: Raspe.
- Eubank, L. L. 1946. Hawaiian Representatives of the Genus *Caulerpa*. *University of California Publications in Botany* 18: 409–431, pl. 22.
- Falkenberg, P. 1901. *Die Rhodomelaceen des Golfes von Neapel und der angrenzenden Meeres-Abschnitte. Fauna und Flora des Golfes von Neapel, Monographie No. 26*. xvi+753 pp., 24 pls. Berlin: von R. Friedländer & Sohn.
- Fan, K.-C. 1961. Morphological Studies of the Gelidiales. *University of California Publications in Botany* 32: 315–368, pls. 33–46.
- Fan, K.-C. 1962. Studies on the Reproductive Organs of Red Algae, II: The Genus *Dermonenma*. *Acta Botanica Sinica* 10(4): 336–338, pls. 1–2.
- Fan, K.-C., and Y.-P. Fan. 1962. Studies on the Reproductive Organs of Red Algae, I: *Tsengia* and the Development of its Reproductive Systems. *Acta Botanica Sinica* 10(3): 187–196, pls. 1–2.
- Fan, K.-C., and G. F. Papenfuss. 1959. Red Algal Parasites Occurring on Members of the Gelidiales. *Madroño* 15: 33–38.
- Fan, K.-C., and Y.-C. Wang. 1974. Studies on the Marine Algae of Hsisha Islands, China, I: *Ganonema* gen. nov. *Acta Phytotaxonomica Sinica* 12(4): 489–493, pls. 94–95.
- Farghaly, M. S., and M. Denizot. 1979. Le genre *Rhipiliopsis*, Définition et place dans les Caulerpales (Chlorophycées). *Revue Algologique*, n.s., 14: 169–184.
- Farlow, W. G. 1877. On Some Algae New to the United States. *Proceedings of the American Academy of Arts and Sciences* 12: 235–245. doi: 10.2307/25138453.
- Farlow, W. G. 1881. *Marine Algae of New England*. Report of the U.S. Commissioner of Fish and Fisheries for 1879, Appendix A-1. 210 pp. Washington, D.C.: Government Printing Office.
- Farlow, W. G. 1899. Three Undescribed Californian Algae. *Erythraea* 7: 73–76.
- Feldmann, J. 1945. Une nouvelle espèce de *Myriactula* parasite du *Gracilaria armata* J. Ag. *Bulletin de la Société de l'Histoire Naturelle de l'Afrique de Nord* 34: 222–229.
- Feldmann, J. 1953. L'évolution des organes femelles chez les Floridiées. In *Proceedings of the First International Seaweed Symposium, Held in Edinburgh 14th–17th July, 1952*, pp. 11–12. Inveresk, Scotland: Institute of Seaweed Research.
- Feldmann, J., and G. Feldmann. 1943 [1942]. Recherches sur les Bonnemaisoniacées et leur alternance de générations. *Annales des Sciences Naturelles, Botanique, Série 11*, 3: 75–175, 2 pls., 1 table. [G. Feldmann = "Feldmann-Mazoyer" as author of algal names.]
- Feldmann, J., and G. Hamel. 1934. Observations sur quelques Géliadiacées. *Revue Générale de Botanique* 46: 528–549.
- Feldmann-Mazoyer, G. 1940 [1941]. *Recherches sur les Cérarniacées de la Méditerranée occidentale*. 510 pp., pls. I–IV. Alger: Imprimerie Minerva.
- Fenical, W., and J. N. Norris. 1975. Chemotaxonomy in Marine Algae: Chemical Separation of Some *Laurencia* Species (Rhodophyta) from the Gulf of California. *Journal of Phycology* 11: 104–108. doi: 10.1111/j.1529-8817.1975.tb02755.x.

- Fensholt, D. E. 1955. An Emendation of the Genus *Cystophyllum* (Fuciales). *American Journal of Botany* 42: 305–332. <http://www.jstor.org/stable/2438568>.
- Fernández-García, C., J. Cortés, J. J. Alvarado, and J. Nivia-Ruiz. 2012. Physical Factors Contributing to the Benthic Dominance of the Alga *Caulerpa sertularioides* (Caulerpaceae, Chlorophyta) in the Upwelling Bahía Culebra, North Pacific of Costa Rica. *Revista de Biología Tropical* 60(Suppl. 2): 93–107. doi: 10.15517/rbt.v60i2.19970.
- Fernández-García, C., B. Wyso, R. Riosmena-Rodríguez, E. Peña-Salamanca, and H. Verbruggen. 2016. DNA-Assisted Identification of *Caulerpa* (Caulerpaceae, Chlorophyta) Reduces Species Richness Estimates for the Eastern Tropical Pacific. *Phytotaxa* 252(3): 185–204. doi: 10.11646/phytotaxa.252.3.2.
- Filloramo, G. V., and G. W. Saunders. 2016. Application of Multigene Phylogenetics and Site-Stripping to Resolve Intraordinal Relationships in the Rhodomeniales (Rhodophyta). *Journal of Phycology* 52: 339–355. doi: 10.1111/jpy.12418.
- Fletcher, R. L. 1978. Studies on the Family Ralfsiaceae (Phaeophyta) Around the British Isles. In *Modern Approaches to the Taxonomy of Red and Brown Algae*, D. E. G. Irvine and J. H. Price, eds., pp. 371–388. Systematics Association Special Volume, No. 10. London: Academic Press.
- Forsskål, P. 1775. *Flora Aegyptiaco-Arabica. Sive descriptiones plantarum, quas per Aegyptum inferiorem et Arabiam felicem detexit, illustravit Petrus Forsskal . . . Post mortem auctoris Edidit Carsten Niebuhr*. Pp. frontispiece, [1]–32+[i]–cxvii, [1], [1]–219, [220, errata]. Copenhagen: Möller.
- Foslie, M. H. 1898. Systematical Survey of the Lithothamnina. *Det Kongelige Norske Videnskabers Selskabs Skrifter* 1898(2): 1–7.
- Foslie, M. H. 1900. New or Critical Calcareous Algae. *Det Kongelige Norske Videnskabers Selskabs Skrifter* 1899(5): 1–34.
- Foslie, M. H. 1902. New Species or Forms of Melobesiae. *Det Kongelige Norske Videnskabers Selskabs Skrifter* 1902(2): 1–11. doi: 10.5962/bhl.title.63770.
- Foslie, M. H. 1903. Den botaniske samling. *Kongelige Norske Videnskabers Selskabs Skrifter* 1902(7): 23–25.
- Foslie, M. H. 1905. New Lithothamnina and Systematical Remarks. *Det Kongelige Norske Videnskabers Selskabs Skrifter* 1905(5): 1–9.
- Foslie, M. H. 1906. Algologiske notiser, II. *Det Kongelige Norske Videnskabers Selskabs Skrifter* 1906(2): 1–28.
- Foslie, M. H. 1908. Algologiske notiser, V. *Det Kongelige Norske Videnskabers Selskabs Skrifter* 1908(7): 1–20.
- Foslie, M. H. 1909. Algologiske notiser, VI. *Det Kongelige Norske Videnskabers Selskabs Skrifter* 1909(2): 1–63.
- Foslie, M. H. 1929. *Contributions to a Monograph of the Lithothamnina*. After the author's death, collected and edited by K. H. O. Printz. [1]–60+[2] pp., pls. I–LXXV. Trondheim: Det Kongelige Norske Videnskabers Selskab Museet.
- Fragoso, D., and D. Rodríguez. 2002. Algas coralinas no geniculadas (Corallinales, Rhodophyta) en el Pacífico tropical mexicano. *Annales del Instituto de Biología de la Universidad Nacional Autónoma de México, Serie Botánica* 73(2): 97–136.
- Fredericq, S., and M. H. Hommersand. 1989. Proposal of the Gracilariales ord. nov. (Rhodophyta) Based on an Analysis of the Reproductive Development of *Gracilaria verrucosa*. *Journal of Phycology* 25: 213–227. doi: 10.1111/j.1529-8817.1989.tb00116.x.
- Fries, E. M. 1836. *Corpus florarum provincialium Sueciae, I: Floram Scanicam scripsit Elias Fries*. Parts 13–22, pp. [i]–xxiv+[1–10], 193–346. Uppsala: Palmblad, Sebell & Co.
- Furnari, G., M. Cormaci, D. Serio, and W. F. Prud'homme van Reine. 2016. Is the Transfer of *Chondria glandulifera* (Rhodomelaceae, Rhodophyta) to the Genus *Chondrophycus* (as *Chondrophycus glandifera*) Taxonomically Correct? *Notulae Algarum*, no. 7: 1–8.
- Gabrielson, P. W. 1982. Morphological Studies of Members of the Tribe Agardhiellae (Solieriaceae, Rhodophyta), II: *Sarcodiotheca gaudichaudii* (Montagne) comb. nov. *Phycologia* 21: 86–96. doi: 10.2216/i0031-8884-21-1-86.1.
- Gabrielson, P. W. 2008. Molecular Sequencing of Northeast Pacific Type Material Reveals Two Earlier Names for *Prionitis lyallii*, *Prionitis jubata* and *Prionitis sternbergii*, with Brief Comments on *Grateloupia versicolor* (Halymeniaceae, Rhodophyta). *Phycologia* 47: 89–97. doi: 10.2216/04-43.1.
- Gabrielson, P. W., and M. H. Hommersand. 1982. The Morphology of *Agardhiella subulata* Representing the Agardhiellae, a New Tribe in the Solieriaceae (Gigartinales, Rhodophyta). *Journal of Phycology* 18: 46–58. doi: 10.1111/j.1529-8817.1982.tb03155.x.
- Gabrielson, P. W., T. B. Widdowson, and S. C. Lindstrom. 2004. *Keys to the Seaweeds and Seagrasses of Oregon and California*. iv+181 pp. Phycological Contribution, No. 6. Vancouver, Canada: Department of Botany, University of British Columbia.
- Gaillard, J. 1966. Un *Padina* nouveau des côtes d'Afrique: *Padina glabra* sp. nova. *Phycologia* 5: 222–226. doi: 10.2216/i0031-8884-5-4-222.1.
- Gaillon, B. 1828. Résumé méthodique des classifications des Thalassiphytes. *Dictionnaire des Sciences Naturelles [Levrault]* 53: 350–406, tables 1–3.
- Ganesan, E. K. 1971. *Amphiroa currae* (Corallinaceae), A New Species of Marine Algae from Venezuela. *Phycologia* 10: 155–161. doi: 10.2216/i0031-8884-10-2-155.1.
- Garbary, D. J., G. I. Hansen, and R. F. Scagel. 1980. A Revised Classification of the Bangiophyceae (Rhodophyta). *Nova Hedwigia* 33: 45–166.
- Garbary, D. J., G. I. Hansen, and R. F. Scagel. 1981 [1980]. The Marine Algae of British Columbia and Northern Washington; Division Rhodophyta (Red Algae), Class Bangiophyceae. *Syesis* 13: 137–195.
- García-Rodríguez, L. D., R. Riosmena-Rodríguez, S. Y. Kim, M. López-Meyer, J. Orduña-Rojas, J. M. López-Vivas, and S. M. Boo. 2013. Recent Introduction of *Gracilaria parvispora* (Gracilariales, Rhodophyta) in Baja California, México. *Botanica Marina* 56: 143–150. doi: 10.1515/bot-2012-0177.
- Gardner, N. L. 1919. New Pacific Coast Marine Algae, IV. *University of California Publications in Botany* 6: 487–496, pl. 42.
- Gardner, N. L. 1927a. New Rhodophyceae from the Pacific Coast of North America, II. *University of California Publications in Botany* 13: 235–272+[273].
- Gardner, N. L. 1927b. New Rhodophyceae from the Pacific Coast of North America, III. *University of California Publications in Botany* 13: 333–368+[369].
- Gardner, N. L. 1927c. New Rhodophyceae from the Pacific Coast of North America, V. *University of California Publications in Botany* 13: 403–434+[435].
- Gardner, N. L. 1927d. New Rhodophyceae from the Pacific Coast of North America, VI. *University of California Publications in Botany* 14: 99–138+[139].
- Gardner, N. L. 1940. New species of Melanophyceae from the Pacific Coast of North America. *University of California Publications in Botany* 19: 267–285+[286].
- Gavio, B., and S. Fredericq. 2002. *Grateloupia turuturu* (Halymeniaceae, Rhodophyta) is the Correct Name of the Non-native Species in the Atlantic Known as *Grateloupia doryphora*. *European Journal of Phycology* 37: 349–360. doi: 10.1017/S0967026202003839.
- Gepp, A., and E. S. Gepp. 1911. *The Cordaceae of the Siboga Expedition Including a Monograph of Flabellariae and Udoteae*. 150 pp., 22 pls. Siboga-Expeditie Monographie, No. 62. Leiden: E. J. Brill.
- Geraldino, P. J. L., R. Riosmena-Rodríguez, L. M. Liao, and S. M. Boo. 2010. Phylogenetic Relationships within the Genus *Hypnea* (Gigartinales, Rhodophyta), with a Description of *H. caespitosa* sp. nov. *Journal of Phycology* 46: 336–345. doi: 10.1111/j.1529-8817.2009.00804.x.
- Gmelin, S. G. 1768. *Historia fuorum*. [xii]+239+6 pp., pls. IA, IB, IIA, IIB, III–XXXII, [XXXIII]. St. Petersburg: Academiae Scientiarum.
- Golden, L., and K. M. Cole. 1986. Studies on the Green Alga *Kormannia* (Kormanniaceae fam. nov.; Ulotracheales) in British Columbia. *Japanese Journal of Phycology (Sôru)* 34: 263–274.
- González-González, J. 1993. Comunidades algas del Pacífico tropical. In *Biodiversidad Marina y Costera de México*, S. I. Salazar-Vallejo and N. E. González, eds., pp. 420–443. Mexico City: Comisión Nacional para el Conocimiento y Aprovechamiento de la Biodiversidad (CONABIO) and Centro de Investigaciones de Quintana Roo (CIQRO).
- González-González, J., M. Gold-Morgan, H. León-Tejera, C. Candelaria, D. León-Alvarez, E. Serviere-Zaragoza, and D. Fragoso. 1996. *Catálogo Onomástico (Nomenclátor) y Bibliografía Indexada de las Algas Bentónicas Marinas de México*. 492 pp. Cuadernos del Instituto de Biología, No. 29. Mexico City: Universidad Nacional Autónoma de México.
- Gordon, E. M. 1972. Comparative Morphology and Taxonomy of the Wrangeliae, Sphondylothamninae, and Spermothamninae (Ceramiaceae, Rhodophyta). *Australian Journal of Botany*, Suppl. 4: 1–180.
- Gray, J. E. 1865 [1864]. *Handbook of British Water-Weeds or Algae*. pp. i–iv, 1–123. London: R. Hardwicke.
- Gray, J. E. 1866. On *Anadyomena* and *Microdictyon*, with the Description of Three New Allied Genera, Discovered by Menzies in the Gulf of Mexico. *Journal of Botany, British and Foreign* 4: 41–51, 65–72, pl. 44.
- Gray, S. F. 1821. *A Natural Arrangement of British Plants, According to Their Relations to Each Other, as Pointed Out by Jussieu, De Candolle, Brown, & c. Including Those Cultivated for Use; with an Introduction to Botany, in Which the Terms Newly Introduced are Explained; Illustrated by Figures*. Volume 1. xxviii+824 pp., 21 pls. London: Baldwin, Cradock & Joy.
- Greville, R. K. 1823. *Scottish Cryptogamic Flora, or Coloured Figures and Descriptions of Cryptogamic Plants, Belonging Chiefly to the Order Fungi; and Intended to Serve as a Continuation of English Botany*. Volume 2, fascicles 13–18, pls. 61–90. Edinburgh: MacLachlan & Stewart; London: Baldwin, Cradock & Joy.

- Greville, R. K. 1830. *Algae Britannicae, or Descriptions of the Marine and Other Inarticulated Plants of the British Islands, Belonging to the Order Algae; with Plates Illustrative of the Genera*. [iii]+lxxxviii+218 pp., pls. 1–19. Edinburgh: MacLachlan & Stewart; London: Baldwin & Cradock.
- Greville, R. K. 1833. Specific sections in “Algae,” W. H. Harvey, ed. *The English Flora of Sir James Edward Smith, Class XXIV: Cryptogamia, Volume V (or Volume II of Dr. Hooker’s British Flora), Part I: Comprising the Mosses, Hepaticae, Lichens, Characeae and Algae*, 4th ed., W. J. Hooker, ed., pp. 248–401, 405–415. London: Longman, Brown, Green & Longman.
- Griffith, J. W., and A. Henfrey. 1856. *The Micrographic Dictionary: A Guide to the Examination and Investigation of the Structure and Nature of Microscopic Objects; Illustrated by Forty-one Plates and Eight Hundred and Sixteen Woodcuts*. [i]–v+[1]–696 pp., 41 pls. London: John van Voorst.
- Grunow, A. 1874. Algen der Fidschi-, Tonga-, und Samoa-Inseln, gesammelt von Dr. E. Graeffe. *Journal des Museums Godeffroy (Hamburg)* 3(6): 23–50.
- Grunow, A. 1915. Additamenta ad Cognitionem Sargassorum. *Verhandlungen der Kaiserlich-Möniglichen Zoologisch-Botanischen Gesellschaft in Wien* 65: 329–448.
- Guiry, M. D. 1978. The Importance of Sporangia in the Classification of the Florideophyceae. In *Modern Approaches to the Taxonomy of Red and Brown Algae*, D. E. G. Irvine and J. H. Price, eds., pp. 111–144. Systematics Association Special Volume, No. 10. London: Academic Press.
- Guiry, M. D., and G. M. Guiry. 2014–2017. AlgaeBase. Galway: National University of Ireland. <http://www.algaebase.org>. [Continuously updated; last accessed and verified 2017.]
- Haas, H. J. 1887 [1886]. *Katechismus der Versteinerungskunde (Petrefaktenkunde, Paläontologie)*. viii+240 pp. Leipzig: J. J. Weber. [see Doweld, 2012:680.]
- Haeckel, E. 1894. *Systematische Phylogenie der Protisten und Pflanzen. Erster Theil des Entwurfs einer systematischen Stammesgeschichte*. xvi+400 pp. Berlin: Von Georg Reimer.
- Hamel, A., and G. Hamel. 1929. Sur l’hétérogamie d’une Cladophoracée *Lola* (nov. gen.) *lubrica* (Setch. et Gardn.). *Compte Rendu Hebdomadaire des Séances de l’Académie des Sciences, Paris* 189: 1094–1096.
- Hamel, G. 1928. Sur les genres *Acrochaetium* Naeg. et *Rhodochorton* Naeg. *Revue Algologique* 3: 159–210.
- Hamel, G. 1931. *Phéophycées de France*. Fascicle 1, pp. 1–80. Paris.
- Hamel, G. 1937. *Phéophycées de France*. Fascicle 3, pp. 177–240. Paris.
- Hamel, G. 1939. *Phéophycées de France*. Fascicle 5V, pp. 337–431+[432], [i]–xlvi+[xlvii], pls. 1–10. Paris.
- Hansen, G. I. 1997. A Revised Checklist and Preliminary Assessment of the Macrobenthic Marine Algae and Seagrasses of Oregon. In *Conservation and Management of Native Flora and Fungi*, T. N. Kaye, A. Liston, R. M. Love, D. L. Luoma, R. J. Meinke, and M. V. Wilson, eds., pp. 175–200. Corvallis: Native Plant Society of Oregon.
- Hansgirg, A. 1885. Ein Beitrag zur Kenntniss von der Verbreitung der Chromatophoren und Zellkernen bei den Schizophyceen (Phycochromaceen). *Berichte der deutsche botanischen Gesellschaft* 3: 21–22.
- Hariot, P. 1889. Algues. In *Mission Scientifique du Cap Horn. 1882–1883. Volume V: Botanique*, P. Hariot, P. Petit, J. Muller De Argovie, E. Beschereille, C. Massolongo, and A. Franchet, eds., pp. 3–109. Paris: Gauthier-Villars et Fils, Imprimeurs Libraires.
- Hariot, P. 1891. Liste des algues marines rapportées de Yokosuka (Japon) par M. le Dr. Savatier. *Mémoires de la Société Nationale des Sciences Naturelles et Mathématiques de Cherbourg* 27: 211–230.
- Haroun, R. J., and W. F. Prud’homme van Reine. 1993. A Biogeographical Study of *Laurencia* and *Hypnea* Species of the Macaronesian region. *Courier Forschungsinstitut Senckenberg* 159: 119–125.
- Harper, J. T., and G. W. Saunders. 2002. A Re-classification of the Acrochaetiales Based on Molecular and Morphological Data, and Establishment of the Colaconematales, ord. nov. (Florideophyceae, Rhodophyta). *European Journal of Phycology* 37: 463–475. doi: 10.1017/S0967026202003840.
- Harvey, A. S., S. T. Broadwater, W. J. Woelkerling, and P. J. Mitrovski. 2003. *Choreonema* (Corallinales, Rhodophyta): 18S rDNA Phylogeny and Resurrection of the Hapalidiaceae for the Subfamilies Choreonematoideae, Austrothoideae, and Melobesioidae. *Journal of Phycology* 39: 988–998. doi: 10.1046/j.1529-8817.2003.02158.x.
- Harvey, A. S., W. J. Woelkerling, J. M. Huisman, and C. F. D. Gurgel. 2013. A Monographic Account of Australian Species of *Amphiroa* (Corallinales, Rhodophyta). *Australian Systematic Botany* 26: 81–144. doi: 10.1071/SB13010.
- Harvey, W. H. 1833. Algae. In *The English Flora of Sir James Edward Smith, Class XXIV: Cryptogamia, Volume V, Part I: Comprising the Mosses, Hepaticae, Lichens, Characeae and Algae*, 2nd ed., W. J. Hooker, ed., pp. 259–262, 266–267, 322–401, 405–419. London: Longman, Brown, Green & Longman. [Also published as Hooker, W. J. 1833. *The British Flora* . . . , Volume 2, Part. 1. 4th ed., x+4+432 pp. London: Longman, Brown, Green & Longmans.]
- Harvey, W. H. 1846. *Phycologia Britannica, or, a History of British Sea-weeds: Containing Coloured Figures, Generic and Specific Characters, Synonymes, and Descriptions of All the Species of Algae Inhabiting the Shores of the British Islands*. Text with plates I–LXXVIII. London: Reeve & Benham.
- Harvey, W. H. 1849. *A Manual of the British Marine Algae: Containing Generic and Specific Descriptions of All the Known British Species of Sea-weeds*. 2nd ed. lii+252 pp., pls. 1–27. London: John van Voorst.
- Harvey, W. H. 1853. *Nereis Boreali-Americana; or, Contributions Towards a History of the Marine Algae of the Atlantic and Pacific Coasts of North America, Pt. 2: Rhodosperrmeae*. [First Issue]. [ii]+1–258 pp., pls. 13–36. Washington, D.C.: Smithsonian Institution; London: John Van Voorst.
- Harvey, W. H. 1855a. Some Account of the Marine Botany of the Colony of Western Australia. *Transactions of the Royal Irish Academy* 22: 525–566. doi: 10.5962/bhl.title.112433.
- Harvey, W. H. 1855b. Algae, L. In *The Botany of the Antarctic Voyage of H.M. Discovery Ships Erebus and Terror, in the Years 1839–1843, Under the Command of Captain Sir James Clark Ross . . . Volume II: Flora Novae-Zelandiae, Part. 2: Flowerless Plants*, J. D. Hooker, ed., pp. 211–266, pls. 107–121. London: Reeve, Brothers.
- Harvey, W. H. 1857 [1856]. Algae. In *List of Dried Plants Collected in Japan*, A. Gray, ed., pp. 331–332, in *Narrative of the Expedition of an American Squadron to the China Seas and Japan, Performed in the Years 1852, 1853 and 1854, Under the Command of Commodore M. C. Perry, United States Navy . . . , Volume 2*, F. L. Hawks, ed., pp. 303–332. Senate of the 33rd Congress, Second Session, Executive Document, No. 79. Washington, D.C.: A. O. P. Nicholson.
- Harvey, W. H. 1858. *Nereis Boreali-Americana; or, Contributions towards a History of the Marine Algae of the Atlantic and Pacific Coasts of North America, Pt. 3: Chlorosperrmeae*. [First Issue]. ii+140 pp., pls. 37–50. London: John Van Voorst.
- Harvey, W. H. 1860. Characters of New Algae, Chiefly from Japan and Adjacent Regions, Collected by Charles Wright in the North Pacific Exploring Expedition under Captain James Rodgers. *Proceedings of the American Academy of Arts and Sciences* 4: 327–335.
- Harvey, W. H. 1862. Notice of a Collection of Algae Made on the Northwest Coast of North America, Chiefly at Vancouver’s Island, by David Lyall, Esq., M.D., R.N., in the Years 1859–1861. *Journal of the Linnean Society, Botany*, 6: 157–177.
- Harvey, W. H., and J. W. Bailey. 1851. Dr. Gould Presented, in Behalf of Professors W. H. Harvey of Trinity College, Dublin, and J. W. Bailey of West Point, Descriptions of Seventeen New Species of Algae Collected by the United States Exploring Expedition. *Proceedings of the Boston Society of Natural History* 3: 370–373.
- Hauck, F. 1876. Verzeichniss der im Golfe von Triest gesammelten Meeralgeln. (Fortsetzung). *Österreichische Botanische Zeitschrift* 26: 24–26, 54–57. doi: 10.1007/BF01622805.
- Hauck, F. 1883. *Die Meeresalgen Deutschlands und Oesterreichs*. 2nd ed. Volume 2, Parts 3–6, pp. 113–320. Leipzig: Verlag von Eduard Kummer.
- Hauck, F. 1884. *Die Meeresalgen Deutschlands und Oesterreichs*. [Second title page: *Dr. L. Rabenhorst’s Kryptogamen-Flora von Deutschland, Oesterreich und der Schweiz*.] 2nd ed. Volume 2, Parts 7–9, pp. 321–512. Leipzig: Verlag von Eduard Kummer.
- Hauck, F. 1887. Ueber einige von J. M. Hildebrandt im Rothen Meere und Indischen Ocean gesammelte Algen. *Hedwigia* 26: 18–21, 41–45.
- Hayden, H. S., J. Blomster, C. A. Maggs, P. C. Silva, M. J. Stanhope, and J. R. Waaland. 2003. Linnaeus Was Right All Along: *Ulva* and *Enteromorpha* Are Not Distinct Genera. *European Journal of Phycology* 38: 277–294. doi: 10.1080/1364253031000136321.
- Hayden, H. S., and J. R. Waaland. 2004. A Molecular Systematic Study of *Ulva* (Ulvaceae, Ulvales) from the Northeast Pacific. *Phycologia* 43(4): 364–382.
- Hering, [K.]. 1841. Diagnoses Algarum Novarum a cl. Dre. Ferdinand Krauss in Africa Australi Lectarum. *Annals and Magazine of Natural History Series 1* 8: 90–92.
- Hernández-Herrera, R. M., S. E. Ibarra-Obando, and M. del Refugio Mora-Navarro. 2005. Macroalgae Community Structure in Southern Coast of Jalisco, Mexico. *Scientia—CUCBA* 7(2): 139–154.
- Hernández-Kantún, J. J., R. Riosmena-Rodríguez, W. H. Adey, and F. Rindi. 2014. Analysis of the *cox 2-3* Spacer Region for Population Diversity and Taxo-

- onomic Implications in Rhodolith-Forming Species (Rhodophyta: Corallinales). *Phytotaxa* 190(1): 331–354. doi: 10.11646/phytotaxa.190.120.
- Hernández-Kantún, J. J., R. Riosmena-Rodríguez, J. M. Hall-Spencer, V. Peña, C. A. Maggs, and F. Rindi. 2015. Phylogenetic Analysis of Rhodolith Formation in the Corallinales (Rhodophyta). *European Journal of Phycology* 50(1): 46–61. doi: 10.1080/09670262.2014.984347 [e-version: 16 Dec 2014; print version: Jan 2015].
- Heydrich, F. 1894. Beiträge zur Kenntniss der Algenflora von Ost-Asien, besonders der Insel Formosa, Molukken- und Liu-kiu-Inseln. *Hedwigia* 33: 267–306, pls. XIV–XV.
- Heydrich, F. 1897a. Melobesieae. *Berichte der deutsche botanischen Gesellschaft* 15: 403–420, pl. XVIII.
- Heydrich, F. 1897b. Corallinales, insbesondere Melobesieae. *Berichte der deutsche botanischen Gesellschaft* 15: 34–70, pl. III.
- Heydrich, F. 1901. Die Lithothamien des Museum d'Histoire naturelle in Paris. *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 28: 529–545, pl. 11.
- Hillis, L. W. 1959. A Revision of the Genus *Halimeda* (Order Siphonales). *Publications of the Institute of Marine Sciences [University of Texas]* 6: 321–403.
- Hillis-Colinvaux, L. 1968. New Species of *Halimeda*: A Taxonomic Reappraisal. *Journal of Phycology* 4: 30–35. doi: 10.1111/j.1529-8817.1968.tb04673.x.
- Hillis-Colinvaux, L. 1980. Ecology and Taxonomy of *Halimeda*: Primary Producers of Coral Reefs. *Advances in Marine Biology* 17: vii–viii, 1–327. doi: 10.1016/S0065-2881(08)60303-X.
- Hind, K. R., P. W. Gabrielson, C. P. Jensen, and P. T. Martone. 2016. *Crusticorallina* gen. nov., a Non-geniculate Genus in the Subfamily Corallinoideae (Corallinales, Rhodophyta). *Journal of Phycology*, 52: 929–941. doi: 10.1111/jpy.12449-16-061. [e-version: 15 Sep 2016; print version: Dec 2016]
- Hoek, C. van den. 1963. *Revision of the European Species of Cladophora*. 248 pp. Leiden: E. J. Brill.
- Hoek, C. van den. 1978. *Aigen: Einfuhrung in die Phykologie*. 481 pp. Stuttgart: G. Thieme.
- Hoek, C. van den, and M. Chihara. 2000. *A Taxonomic Revision of the Marine Species of Cladophora (Chlorophyta) along the Coasts of Japan and the Russian Far-East*. National Science Museum Monographs, No. 19. 242 pp. Tokyo: National Science Museum.
- Hoek, C. van den, D. G. Mann, and H. M. Jahns. 1995. *Algae: An Introduction to Phycology*. xiv+1–623 pp. Cambridge: Cambridge University Press.
- Hollenberg, G. J. 1939. A Morphological Study of *Amplisiphonia*, a New Member of the Rhodomeleaceae. *Botanical Gazette* 101: 380–390. doi: 10.1086/334876.
- Hollenberg, G. J. 1941. Culture Studies of Marine Algae, II: *Hapterophycus canaliculatus* S. & G. *American Journal of Botany* 28(8): 676–683. <http://www.jstor.org/stable/2436965>.
- Hollenberg, G. J. 1942. An Account of the Species of *Polysiphonia* on the Pacific Coast of North America, I: *Oligosiphonia*. *American Journal of Botany* 29: 772–785. doi: 10.2307/2437732.
- Hollenberg, G. J. 1943. New Marine Algae from Southern California, II. *American Journal of Botany* 30: 571–579. doi: 10.2307/2437467.
- Hollenberg, G. J. 1944. An Account of the Species of *Polysiphonia* on the Pacific Coast of North America, II: *Polysiphonia*. *American Journal of Botany* 31: 474–483. doi: 10.2307/2437409.
- Hollenberg, G. J. 1945. New Marine Algae from Southern California, III. *American Journal of Botany* 32: 447–451. doi: 10.2307/2437571.
- Hollenberg, G. J. 1958. Phycological Notes, II. *Bulletin of the Torrey Botanical Club* 85: 63–69. doi: 10.2307/2482450.
- Hollenberg, G. J. 1968. An Account of the Species of *Polysiphonia* of the Central and Western Tropical Pacific Ocean, I: *Oligosiphonia*. *Pacific Science* 22: 56–98.
- Hollenberg, G. J. 1969. An Account of the Ralfsiaceae (Phaeophyta) of California. *Journal of Phycology* 5: 290–301. doi: 10.1111/j.1529-8817.1969.tb02617.x.
- Hollenberg, G. J. 1970. Phycological Notes, IV: Including New Marine Algae and New Records for California. *Phycologia* 9: 61–72. doi: 10.2216/i0031-8884-9-1-61.1.
- Hollenberg, G. J. 1971. Phycological Notes, VI: New Records, New Combinations, and Noteworthy Observations Concerning Marine Algae of California. *Phycologia* 10: 281–290. doi: 10.2216/i0031-8884-10-2-281.1.
- Hollenberg, G. J., and I. A. Abbott. 1965. New Species and New Combinations of Marine Algae from the Region of Monterey, California. *Canadian Journal of Botany* 43: 1177–1188. doi: 10.1139/b65-131.
- Hollenberg, G. J., and J. N. Norris. 1977. *The Red Alga Polysiphonia (Rhodomelaceae) in the Gulf of California*. iii+21 pp. Smithsonian Contributions to the Marine Sciences, no. 1. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Holmes, E. M. 1896. New Marine Algae from Japan. *Journal of the Linnean Society, Botany*, 31(215): 248–260, pls. 7–12.
- Hommersand, M. H. 1963. The Morphology and Classification of Some Ceramiales and Rhodomelaceae. *University of California Publications in Botany* 35: vii+165–366.
- Hommersand, M. H., and S. Fredericq. 1997a. Characterization of *Myriogramme livida*, Myriogrammeae trib. nov. (Delesseriaceae, Rhodophyta). *Journal of Phycology* 33: 106–121. doi: 10.1111/j.0022-3646.1997.00106.x.
- Hommersand, M. H., and S. Fredericq. 1997b. Characterization of *Schizoseris condensata*, Schizoserideae trib. nov. *Journal of Phycology* 33: 475–490. doi: 10.1111/j.0022-3646.1997.00475.x.
- Hommersand, M. H., M. D. Guiry, S. Fredericq, and G. L. Leister. 1993. New Perspectives in the Taxonomy of the Gigartinales (Gigartinales, Rhodophyta). In *Proceedings of the 14th International Seaweed Symposium*, A. R. O. Chapman, T. M. Brown, and M. Lahaye, eds. *Hydrobiologia* 260–261: 105–120. doi: 10.1007/BF00049009.
- Hooker, W. J. 1833. *The English Flora of Sir James Edward Smith, Class XXIV: Cryptogamia*, Volume 5, Part 1: *Comprising the Mosses, Hepatiae, Lichens, Characeae and Algae*. 2nd ed. x+4+432 pp. London: Longman, Rees, Orme, Brown, Green & Longman. [Listed under J. E. Smith in most libraries.] Also published as identical issue: Hooker, W. J. 1833. *The British Flora*. . . Volume 2, Part 1. 4th ed. London: Longman, Brown, Green & Longman.
- Hornemann, J. W. 1818. [“*Flora danica*”] *Icones Plantarum Sponte Nascentium in Regnis Daniae et Norvegiae, in Ducatibus Slesvici et Holsaticae, et in Comitatus Oldenburgi et Delmenhorstiae; ad Illustrandum opus de Iisdem Plantis, Region Jussu Exarandum, Flora Danicae Nomine Inscriptum*. Volume 9, Fasciculus 27. 11 pp., pls. 1561–1620. Copenhagen: Hof-Bogtrykker Nicolaus Möller.
- Hörnig, I., R. Schnetter, and W. F. Prud'homme van Reine. 1993. Additional to “The Genus *Dictyota* (Phaeophyceae) in the North Atlantic, I: A New Generic Concept and New Species.” Correction and Validation of New Combinations in the Genus *Dictyota*. *Nova Hedwigia* 56: 169–171.
- Howe, M. A. 1905. Phycological Studies, II: New Chlorophyceae, New Rhodophyceae and Miscellaneous Notes. *Bulletin of the Torrey Botanical Club* 32: 563–586, pls. 23–29.
- Howe, M. A. 1911. Phycological Studies, V: Some Marine Algae of Lower California, Mexico. *Bulletin of the Torrey Botanical Club* 38: 489–514, pls. 27–34. doi: 10.2307/2479381.
- Howe, M. A. 1914. The Marine Algae of Peru. *Memoirs of the Torrey Botanical Club* 15: [i]+185 pp., pls. 1–66.
- Howe, M. A. 1920. Class 2, Algae. In *The Bahama Flora*, by N. L. Britton and C. F. Millspaugh, pp. 553–618. New York: Authors.
- Howe, M. A., and W. D. Hoyt. 1916. Notes on Some Marine Algae from the Vicinity of Beaufort, North Carolina. *Memoirs of the New York Botanical Garden* 6: 105–123, pls. 11–15.
- Hudson, W. 1762. *Flora anglica; exhibens plantas per regnum angliae sponte crescentes, distributas secundum systema sexuale: cum differentiis specierum, synonymis auctorum, nominibus incolarum, solo locorum, tempore floreendi, officinalibus pharmacopoeorum*. Pp. viii+[8]+506+[22, indices]. London: Impensis auctoris apud J. Nourse et C. Moran.
- Huerta-Múzquiz, L. 1978. Vegetación marina litoral. In *Vegetación de México*, J. Rzedowski, ed., pp. 328–340. Mexico City: Editorial Limusa, S.A. [Reprinted 1981, 1983.]
- Huerta-Múzquiz, L., and A. C. Mendoza-González. 1985. Algas marinas de la parte sur de la Bahía de la Paz, Baja California Sur. *Phytologia* 59(1): 35–57.
- Hughey, J. R., R. Dudash, and C. K. Kjeldsen. 1996. A Field and Molecular Systematic Study on Species of *Chondracanthus* (Gigartinales, Rhodophyceae) from Pacific North America. *Journal of Phycology* 32(Suppl. 3): 22–23. doi: 10.1111/j.0022-3646.1996.00001.x.
- Hughey, J. R., and M. H. Hommersand. 2008. Morphological and Molecular Systematic Study of *Chondracanthus* (Gigartinales, Rhodophyta) from Pacific North America. *Phycologia* 47: 124–155. doi: 10.2216/07-36.1.
- Hughey, J. R., P. C. Silva, and M. H. Hommersand. 2001. Solving Taxonomic and Nomenclatural Problems in Pacific Gigartinales (Rhodophyta) Using DNA from Type Material. *Journal of Phycology* 37: 1091–1109. doi: 10.1046/j.1529-8817.2001.01048.x.
- Huisman, J. M. 1985. The *Scinia* Assemblage (Galaxauraceae, Rhodophyta): A Re-appraisal. *Phycologia* 24: 403–418. doi: 10.2216/i0031-8884-24-4-403.1.

- Huisman, J. M., and M. A. Borowitzka. 1990. A Revision of the Australian Species of *Galaxaura* (Rhodophyta, Galaxauraceae), with a Description of *Tricleocarpa* gen. nov. *Phycologia* 29: 150–172. doi: 10.2216/i0031-8884-29-2-150.1.
- Huisman, J. M., J. T. Harper, and G. W. Saunders. 2004. Phylogenetic Study of the Nemaliales (Rhodophyta) Based on Large-Subunit Ribosomal DNA Sequences Supports Segregation of the Scinaiceae fam. nov. and Resurrection of *Dichotomaria* Lamarck. *Phycological Research* 52: 224–234. doi: 10.1111/j.1440-1835.2004.tb00332.x.
- Huisman, J. M., and A. Kurihara. 2006. *Dichotomaria*. In *Algae of Australia: Nemaliales*, J. M. Huisman, ed., pp. 16–21. Canberra: Australian Biological Resources Study, CSIRO Publishing.
- Huisman, J. M., and T. Schils. 2002. A Re-assessment of the Genus *Izziella* Doty (Liagoraceae, Rhodophyta). *Cryptogamie, Algologie* 23: 237–249.
- Huisman, J. M., and R. A. Townsend. 1993. An Examination of Linnaean and Pre-Linnaean Taxa Referable to *Galaxaura* and *Tricleocarpa* (Galaxauraceae, Rhodophyta). *Botanical Journal of the Linnean Society* 113: 95–101. doi: 10.1111/j.1095-8339.1993.tb00332.x.
- Hwang, I.-K., H.-S. Kim, and W. J. Lee. 2004. Evidence for Taxonomic Status of *Pachydictyon coriaceum* (Holmes) Okamura (Dictyotales, Phaeophyceae) Based on Morphological and Plastid Protein Coding *rbcL*, *psa A* and *psa B* Gene Sequences. *Algae* 19(3): 175–190. doi: 10.4490/ALGAE.2004.19.3.175.
- Hwang, I.-K., W. J. Lee, H.-S. Kim, and O. De Clerck. 2009. Taxonomic Reappraisal of *Dilophus okamurai* (Dictyotales, Phaeophyta) from the Western Pacific. *Phycologia* 48: 1–12. doi: 10.2216/07-68.1.
- Itono, H., and T. Tanaka. 1973. *Balliella*, a New Genus of Ceramiaceae (Rhodophyta). *Botanical Magazine, Tokyo* 86(4): 241–252. doi: 10.1007/BF02488780.
- Johansen, H. W. 1969. Morphology and Systematics of Coralline Algae with Special Reference to *Calliarthron*. *University of California Publications in Botany* 49: vii+78 pp., pls. 1–19.
- Johansen, H. W. 1976. Family Corallinaceae. In *Marine Algae of California*, by I. A. Abbott and G. J. Hollenberg, pp. 379–419. Stanford, Calif.: Stanford University Press.
- Johansen, H. W., and P. C. Silva. 1978. Janieae and Lithotricheae: Two New Tribes of Articulated Corallinaceae (Rhodophyta). *Phycologia* 17: 413–417. doi: 10.2216/i0031-8884-17-4-413.1.
- John, D. M., W. F. Prud'homme van Reine, G. W. Lawson, T. B. Kostermans, and J. H. Price. 2004. A Taxonomic and Geographical Catalogue of the Seaweeds of the Western Coast of Africa and Adjacent Islands. *Beihefte zur Nova Hedwigia* 127: 1–139.
- Kamenarska, Z., K. Stefanov, S. Dimitrova-Konaklieva, H. Najdenski, I. Tsvetkova, H. S. Popov. 2004. Chemical Composition and Biological Activity of the Brackish-Water Green Alga *Cladophora rivularis* (L.) Hoek. *Botanica Marina* 47: 215–221. doi: 10.1515/BOT.2004.022.
- Kato, A., M. Baba, and S. Suda. 2011. Revision of the Mastophoroideae (Corallinales, Rhodophyta) and Polyphyla in Nongeniculate Species Widely Distributed on Pacific Coral Reefs. *Journal of Phycology* 47: 662–672. doi: 10.1111/j.1529-8817.2011.00996.x.
- Keats, D. W., and Y. M. Chamberlain. 1994. Three Species of *Hydrolithon* (Rhodophyta, Corallinaceae): *Hydrolithon onkodes* (Heydrich) Penrose et Woelkerling, *Hydrolithon superficiale* sp. nov., and *H. samoense* (Foslie) comb. nov. from South Africa. *South African Journal of Botany* 60: 8–21. doi: 10.1016/S0254-6299(16)30654-8.
- Keats, D. W., Y. M. Chamberlain, and M. Baba. 1997. *Pneophyllum conicum* (Dawson) comb. nov. (Rhodophyta, Corallinaceae), a Widespread Indo-Pacific Non-geniculate Coralline Alga That Overgrows and Kills Coral. *Botanica Marina* 40: 263–279. doi: 10.1515/botm.1997.40.1-6.263.
- Kim, H.-S. 2010. Ectocarpaceae, Acinetosporaceae, Chordariaceae. In *Algal flora of Korea*, Volume 2, no. 1, *Marine Brown Algae, I: Heterokontophyta: Phaeophyceae: Ectocarpales*, H.-S. Kim and S.-M. Boo, eds., pp. [3]–137. Incheon, South Korea: National Institute of Biological Resources.
- Kim, M.-S., and I. A. Abbott. 2006. Taxonomic Notes on Hawaiian *Polysiphonia*, with Transfer to *Neosiphonia* (Rhodomelaceae, Rhodophyta). *Phycological Research* 54: 32–39. doi: 10.1111/j.1440-1835.2006.00406.x.
- Kim, M.-S., and I. K. Lee. 1999. *Neosiphonia flavimarina* gen. et sp. nov., with a Taxonomic Reassessment of the Genus *Polysiphonia* (Rhodomelaceae, Rhodophyta). *Phycological Research* 47: 271–281. doi: 10.1111/j.1440-1835.1999.tb00308.x.
- Kjellman, F. R. 1880. Rhodospermeae o. Fucoideae. In *Enumerantur Plantae Scandinaviae*, C. W. K. Gleerup, ed. *Points-förteckning öfver Skandinaviens växter* 4: 2–12.
- Kjellman, F. R. 1891. Phaeophyceae (Fucoideae). In *Die natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten insbesondere den Nutzpflanzen unter Mitwirkung zahlreicher hervorragender Fachgelehrten*, I. Abteilung 2, Lieferung 60, A. Engler and K. Prantl, eds., pp. 176–192. Leipzig: Wilhelm Engelmann.
- Kjellman, F. R. 1897. Marina chlorophyceer från Japan. *Bihang til Kongliga Svenska Vetenskaps-Akademiens Handlingar* 23(3), no. 11: 1–44, pls. 1–7.
- Kjellman, F. R. 1900. Om Floridé-slägtet *Galaxaura*, dess organografi och systematik. *Kongliga Svenska Vetenskaps-Akademiens Handlingar* 33(1): 1–109, pls. 1–20.
- Kjellman, F. R., and N. Svedelius. 1910. Lithodermataceae. In *Die natürlichen Pflanzenfamilien, Nachträge zum 1. Teil, 2. Abt. (fasc. 242)*, A. Engler and K. Prantl, eds., pp. 173–176. Leipzig: Wilhelm Engelmann.
- Kogame, K. 1996. Morphology and Life History of *Scytosiphon canaliculatus* comb. nov. (Scytosiphonales, Phaeophyceae) from Japan. *Phycological Research* 44: 85–94. doi: 10.1111/j.1440-1835.1996.tb00380.x.
- Kornmann, P. 1989. *Sahlingia* nov. gen. Based on *Erythrocladia subintegra* (Erythropeltiales, Rhodophyta). *British Phycological Journal* 24: 223–228. doi: 10.1080/00071618900650241.
- Kornmann, P., and P.-H. Sahling. 1985. Erythropeltidaeen (Bangiophyceae, Rhodophyta) von Helgoland. *Helgoländer Meeresuntersuchungen* 39: 213–236. doi: 10.1007/BF01997451.
- Kraft, G. T., and M. J. Wynne. 1996. Delineation of the Genera *Struvea* Sonder and *Phyllocladion* J. E. Gray (Cladophorales, Chlorophyta). *Phycological Research* 44(3): 129–142. doi: 10.1111/j.1440-1835.1996.tb00042.x.
- Kraft, L. G. K., G. T. Kraft, and R. F. Waller. 2010. Investigations into Southern Australian *Ulva* (Ulvophyceae, Chlorophyta) Taxonomy and Molecular Phylogeny Indicate Both Cosmopolitan and Endemic Cryptic Species. *Journal of Phycology* 46: 1257–1277. doi: 10.1111/j.1529-8817.2010.00909.x.
- Krauss, F. 1846. Pflanzen des Cap- und Natal-Landes, gesammelt und zusammengestellt von Dr. Ferdinand Krauss. (Schluss.). *Flora* 29(14): 209–215.
- Krayesky, D. M., and J. N. Norris. 2014. Peyssonneliales. In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 366–374. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Krayesky, D. M., J. N. Norris, P. W. Gabrielson, D. Gabriel, and S. Fredericq. 2009. A New Order of Red Algae Based on the Peyssonneliaceae, with an Evaluation of the Ordinal Classification of the Florideophyceae (Rhodophyta). *Proceedings of the Biological Society of Washington* 122(3): 364–391. doi: 10.2988/08-43.1.
- Krishnamurthy, V. 1972. A Revision of the Species of the Algal Genus *Porphyra* Occurring on the Pacific Coast of North America. *Pacific Science* 2: 24–49.
- Kuckuck, P. 1899. Beiträge zur Kenntnis der Meeresalgen, [nos.] 5–9. *Helgoländer Wissenschaftliche Meeresuntersuchungen* 3: 11–81, pls. II–VIII.
- Kuntze, O. 1898. *Revisio generum plantarum*. Part 3, pp. 1–576. Leipzig: Arthur Felix.
- Kützing, F. T. 1841. Über die “Polypieries calcifères” des Lamouroux. In *Zu der öffentlichen Prüfung sämtlicher Classen der Realschule zu Nordhausen . . . 1841*, F. T. Kützing, ed., pp. 3–34. Nordhausen, Germany: Realschule.
- Kützing, F. T. 1842 [1841]. Ueber *Ceramium* Ag. *Linnaea* 15: 727–746.
- Kützing, F. T. 1843. *Phycologia generalis oder Anatomie, Physiologie und Systemkunde der Tange*. . . [Part 1], i–xvi+1–142 pp.; [Part 2], xvii–xxxii+143–458+[1] pp., pls. 1–80. Leipzig: F. A. Brockhaus.
- Kützing, F. T. 1845. *Phycologia germanica, d. i. Deutschlands Algen in bündigen Beschreibungen*. . . x+340 pp. Nordhausen: Wilhelm Köhne.
- Kützing, F. T. 1847. Diagnosen und Bemerkungen zu neuen oder kritischen Algen. *Botanische Zeitung* 5: 1–5, 22–25, 33–38, 52–55, 164–167, 177–180, 193–198, 219–223.
- Kützing, F. T. 1849. *Species algarum*. [i]+vi+922 pp. Leipzig: F. A. Brockhaus.
- Kützing, F. T. 1857. *Tabulae phycologicae oder Abbildungen der Tange*. Volume 7. Parts 1–2. ii+40 pp., 100 pls. Nordhausen, Germany: Kosten des Verfassers (In Commission bei W. Köhn).
- Kützing, F. T. 1858. *Tabulae phycologicae oder Abbildungen der Tange*. Volume 8. Parts 1–2. ii+48 pp., 100 pls. Nordhausen, Germany: Kosten des Verfassers (In Commission bei W. Köhn).
- Kützing, F. T. 1859. *Tabulae phycologicae oder Abbildungen der Tange*. Volume 9. Parts 1–2. viii+42 pp., 100 pls. Nordhausen, Germany: Kosten des Verfassers (L. Klincksieck).
- Kützing, F. T. 1865. *Tabulae phycologicae oder Abbildungen der Tange*. Volume 15. Parts. 1–2. [iii]+36 pp., 100 pls. Nordhausen, Germany: Kosten des Verfassers (In Commission bei W. Köhn).
- Kylin, H. 1923. Studien über die Entwicklungsgeschichte der Florideen. *Bihang til Kongliga Svenska Vetenskaps-Akademiens Handlingar* 63(11): 1–139.
- Kylin, H. 1924. Studien über die Delesseriaceen. *Lund Universitets Årsskrift, Ny Följd, Andra Afdelningen* 2, 20(6): 1–111.

- Kylin, H. 1925. The Marine Red Algae in the Vicinity of the Biological Station at Friday Harbor, Washington. *Lunds Universitets Årsskrift, Ny Följd, Afdelningen 2*, 21(9): 1–87.
- Kylin, H. 1928. Entwicklungsgeschichtliche Florideenstudien. *Lunds Universitets Årsskrift, Ny Följd, Andra Afdelningen 2*, 24(4): 1–127.
- Kylin, H. 1931. Die Florideenordnung Rhodymeniales. *Lunds Universitets Årsskrift, Ny Följd, Andra Afdelningen 2*, 27(11): 1–48, 20 pls.
- Kylin, H. 1932. Die Florideenordnung Gigartinales. *Lunds Universitets Årsskrift, Ny Följd, Andra Afdelningen 2*, 28(8): 1–88, pls. 1–28.
- Kylin, H. 1938. Verzeichnis einiger Rhodophyceen von Südafrika. *Lunds Universitets Årsskrift, Ny Följd, Andra Afdelningen 2*, 34(8): 1–26, 8 pls.
- Kylin, H. 1940. Die Phaeophyceenordnung Chordariales. *Lunds Universitets Årsskrift, Ny Följd, Andra Afdelningen 2*, 36(9): 1–67, pls. 1–8.
- Kylin, H. 1941. Californische Rhodophyceen. *Lunds Universitets Årsskrift, Ny Följd, Andra Afdelningen 2*, 37(2): 1–51, 13 pls.
- Kylin, H. 1947. Über die Fortpflanzungsverhältnisse in der Ordnung Ulvales. *Kungliga Fysiografiska Sällskapets i Lund Förhandlingar 17*: 174–182.
- Kylin, H. 1956. *Die Gattungen der Rhodophyceen*. xv+673 pp. Lund: C. W. K. Gleerup.
- La Claire, J. W., II, and J. A. West. 1977. Virus-Like Particles in the Brown Alga *Streblonema*. *Protoplasma* 93(1): 127–130. doi: 10.1007/BF01276287.
- Lamarck, J.-B. A. P. de. 1816. *Histoire naturelle des animaux sans vertèbres, présentant les caractères généraux et particuliers de ces animaux, leur distribution, leurs classes, leurs familles, leurs genres, et la citation des principales espèces qui s'y rapportent*. Volume 2. 568 pp. Paris: Verdière.
- Lamouroux, J. V. F. 1809a. Exposition des caractères du genre *Dictyota*, et tableau des espèces qu'il renferme. *Journal de Botanique [Desvaux]* 2: 38–44.
- Lamouroux, J. V. F. 1809b. Observations sur la physiologie des algues marines, et description de cinq nouveaux genres de cette famille. *Nouveau Bulletin des Sciences, Publié par la Société Philomatique de Paris* 1: 330–333, pl. 6.
- Lamouroux, J. V. F. 1812. Extrait d'un mémoire sur la classification des polypiers coralligènes non entièrement pierreux. *Nouveau Bulletin des Sciences, Publié par la Société Philomatique de Paris* 3: 181–188.
- Lamouroux, J. V. F. 1813. Essai sur les genres de la famille des Thalassiophytes non articulés. *Annales du Muséum d'Histoire Naturelle, Paris* 20: 21–47, 115–139, 267–293, pls. 7–13.
- Lamouroux, J. V. F. 1816. *Histoire des polypiers coralligènes flexibles, vulgairement nommés zoophytes*. lxxiv+559+[1] pp., [1] chart, pls. I–XIX. Caen, France: F. Poisson.
- Lavin, M. F., and S. G. Marinone. 2003. An Overview of the Physical Oceanography of the Gulf of California. In *Non-linear Processes in Geological Fluid Dynamics*, O. U. Velasco, J. Sheinbaum, and J. Ochoa, eds., pp. 173–204. New York: Springer. doi: 10.1007/978-94-010-0074-1_11.
- Lee, I. K. 1978. Studies on Rhodymeniales from Hokkaido. *Journal of the Faculty of Science, Hokkaido University, Series 5, Botany* 11: 1–194, pls. 1–5.
- Lee, I. K., J. A. West, and M. H. Hommersand. 1988. *Binghamiopsis caespitosa* gen. et sp. nov. (Lomentariaceae, Rhodophyceae) from the Eastern Pacific. *Korean Journal of Phycology* 3: 1–13.
- Lee, K.-M., A. Mansilla, W. A. Nelson, and S. M. Boo. 2012. *Colpomenia durvillei* (Scytosiphonaceae, Phaeophyceae): Its Distribution and Relationships with Other Elongate Species of the Genus. *Botanica Marina* 55: 367–375. doi: 10.1515/bot-2012-0118.
- Lee, Y.-P. 2008. *Marine Algae of Jeju*. xvi+477 pp., map. Seoul, South Korea: Academy Book Publication.
- Le Gall, L., and G. W. Saunders. 2007. A Nuclear Phylogeny of the Florideophyceae (Rhodophyta) Inferred from Combined EF2, Small Subunit and Large Subunit Ribosomal DNA: Establishing the New Red Algal Subclass Coraliniophycidae. *Molecular Phylogenetics and Evolution* 43: 1118–1130. doi: 10.1016/j.ympev.2006.11.012.
- Le Gall, L., and G. W. Saunders. 2010. Establishment of a DNA-Barcode Library for the Nemaliales (Rhodophyta) from Canada and France Uncovers Overlooked Diversity in the Species *Nemalion helminthoides* (Vellay) Batters. *Cryptogamie, Algologie* 31: 403–421.
- Le Jolis, A. 1863. Liste des algues marines de Cherbourg. *Mémoires de la Société Impériale des Sciences Naturelles de Cherbourg* 10: 5–168, pls. I–IV.
- Leliaert, F., and E. Coppejans. 2004. Crystalline Cell Inclusions: A New Diagnostic Character in the Cladophorophyceae (Chlorophyta). *Phycologia* 43(2): 189–203. doi: 10.2216/i0031-8884-43-2-189.1
- Leliaert, F., B. Wysor, H. Verbruggen, C. Vlaeminck, and O. De Clerck. 2008. *Phylodictyon robustum* (Setchell et Gardner) comb. nov. (Siphonocladales, Chlorophyta), a Morphologically Variable Species from the Tropical Pacific Coast of America. *Cryptogamie Algologie* 29: 217–233.
- Lemoine, Me. P. 1913. Mélobésiées: Revision des Mélobésiées antarctiques. In *Volume 1: Botanique*, pp. 1–64+[65–67], 2 pls., *Deuxième Expédition Ant-arctique Française (1908–1910) Commandée Dr. Jean Charcot, Sciences Naturelles*. Paris: Masson et Cie.
- Lemoine, Me. P. 1924 [1923]. Corallinaceae. In *Volume 2: Marine Algae of Easter Island*, F. Børgesen, ed., pp. 285–293, *The Natural History of Juan Fernández and Easter Island*, C. Skottsberg, ed. Uppsala: Almqvist & Wiksells.
- Lemoine, Me. P. 1928. Un nouveau genre de Mélobésiées: *Mesophyllum*. *Bulletin de la Société Botanique de France* 75: 251–254. doi: 10.1080/00378941.1928.10836268.
- Lemoine, Me. P. 1930 [1929]. Les Corallinacées de l'Archipel des Galapagos et du Golfe de Panama. *Archives du Muséum National d'Histoire Naturelle [Paris], Série 6*, 4: 37–86+[2], 4 pls.
- León-Álvarez, D., and J. González-González. 1995. Characterization of the Environmental Distribution and Morphs of *Ralfsia hancockii* Dawson (Phaeophyta) in the Mexican Tropical Pacific. *Botanica Marina* 38: 359–367. doi: 10.1515/botm.1995.38.1-6.359.
- León-Álvarez, D., and J. González-González. 2003. The Morphological Distinction of *Ralfsia expansa* and *R. hancockii* (Ralfsiaceae, Phaeophyta) from Mexico. *Phycologia* 42: 613–621. doi: 10.2216/i0031-8884-42-6-613.1.
- León-Álvarez, D., and J. N. Norris. 2010. Ralfsiaceae. In *Marine Algae of the Northern Gulf of California: Chlorophyta and Phaeophyceae*, by J. N. Norris, pp. 155–161. Smithsonian Contributions to Botany, No. 94. Washington, D.C.: Smithsonian Institution Scholarly Press.
- León-Álvarez, D., M. L. Núñez-Resendiz, and M. E. Ponce-Márquez. 2014a. Morphological and Molecular Characterization of *Neoralfsia hancockii* comb. nov. (Ralfsiaceae, Phaeophyceae) from Topotype of San José del Cabo, Baja California, México. *Botanica Marina* 57: 139–146. doi: 10.1515/bot-2013-0095.
- León-Álvarez, D., M. L. Núñez-Resendiz, and M. J. Wynne. 2014b. Morphological and Molecular Studies on Topotype Material of *Neoralfsia expansa* (Phaeophyceae) Reveal That Asian Specimens Assigned to this Taxon Are Generically Distinct. *Botanica Marina* 57: 351–358. doi: 10.1515/bot-2014-0029.
- León-Álvarez, D., V. P. Reyes-Gómez, M. J. Wynne, M. E. Ponce-Márquez, and N. Quiróz-González. 2017. Morphological and Molecular Characterization of *Hapalospongiodion gelatinosum*, Hapalospongidiaceae fam. nov. (Ralfsiaceae, Phaeophyceae) from México. *Botanica Marina* 60: [1]–15. doi: 10.1515/bot-2017-0020 (online: 21 Apr 2017).
- León-Álvarez, D., E. Serviere-Zaragoza, and J. González-González. 1997. Description of the Tetrasporangial Crustose and Gametangial Erect Phases of *Ahnfeltiopsis gigartinoides* (J. Ag.) Silva et DeCew (Rhodophyta, Phylloporaceae) in Bahía de Banderas, Mexico. *Botanica Marina* 40: 397–404. doi: 10.1515/botm.1997.40.1-6.397.
- León-Cisneros, K., R. Riosmena-Rodríguez, A. I. Neto, and G. Hernández-Carmona. 2009. The Red Algal Genus *Scinia* (Nemaliales; Rhodophyta) on the Gulf of California, Mexico: A Taxonomic Account. *Phycologia* 48: 186–210. doi: 10.2216/08-82.1.
- Levring, T. 1939. Über die Phaeophyceengattungen *Myriogloia* Kuck. und *Haplogloia* nov. gen. *Botaniska Notiser* 1939: 40–52.
- Levring, T. 1941. Die Meeresalgen der Juan Fernandez-Inseln. In *The Natural History of Juan Fernandez and Easter Island*, Volume 2, C. Skottsberg, ed., pp. 601–670, pls. 49–53. Uppsala: Almqvist & Wiksells Boktryckeri.
- Levring, T. 1960. Contributions to the Marine Algal Flora of Chile. Reports of the Lund University Chile Expedition 1948–49, No. 39. *Lunds Universitets Årsskrift, ny foljd, Andra Afdelningen 2*, 56(10): 1–83+[2].
- Lewis, L. R., and P. E. Ebeling. 1971. *Baja Sea Guide, Volume 2: Covering the Waters of Baja California from San Diego to Cabo San Lucas, to San Felipe, Including All the Offshore and Oceanic Islands*. [8]+9–368 pp. San Francisco: Miller Freeman Publications.
- Lim, P.-E., M. Sakaguchi, T. Hanyuda, K. Kogame, S.-M. Phang, and H. Kawai. 2007. Molecular Phylogeny of Crustose Brown Algae (Ralfsiaceae, Phaeophyceae) Inferred from *rbcL* Sequences Resulting in the Proposal for *Neoralfsia* fam. nov. *Phycologia* 46: 456–466. doi: 10.2216/06-90.1.
- Lin, S.-M., S. Fredericq, and M. H. Hommersand. 2001. Systematics of the Delesseriaceae (Ceramiales, Rhodophyta) Based on Large Subunit rDNA and *rbcL* Sequences, Including the Phycodryoideae, subfam. nov. *Journal of Phycology* 37: 881–899. doi: 10.1046/j.1529-8817.2001.01012.x.
- Lin, S.-M., S. Fredericq, and M. H. Hommersand. 2012. Molecular Phylogeny and Development Studies of *Apoglossum* and *Paraglossum* (Delesseriaceae, Rhodophyta) with a Description of *Apoglossum* trib. nov. *European Journal of Phycology* 47: 366–383. doi: 10.1080/09670262.2012.719164.
- Lindley, J. 1846. *The Vegetable Kingdom; or, the Structure, Classification, and Uses of Plants, Illustrated upon the Natural System . . . with Upwards of*

- Five Hundred Illustrations*. [ii–iii]+[iii]–[lxviii]+[1]–908 pp. London: Bradbury & Evans.
- Lindstrom, S. C. 1986. Nomenclatural and Taxonomic Notes on Species of the Red Algal Genera *Halymenia* (Cryptonemiaceae) and *Weeksia* (Dumontiaceae). *Taxon* 35: 531–533. doi: 10.2307/1221907.
- Lindstrom, S. C., and K. M. Cole. 1992. A Revision of the Species of *Porphyra* (Rhodophyta, Bangiales) Occurring in British Columbia and Adjacent Waters. *Canadian Journal of Botany* 70: 2066–2075. doi: 10.1139/b92-256.
- Lindstrom, S. C., and P. W. Gabrielson. 1989. Taxonomic and Distributional Notes on Northeast Pacific Antithamninae (Ceramiales, Rhodophyta). *Japanese Journal of Phycology* (Sôru) 37: 167–179.
- Link, H. F. 1832. Über die Pflanzenzethiere überhaupt und die dazu gerechneten Gewächse besonders. *Abhandlungen der Königlichen Akademie der Wissenschaften, Berlin* 1830: 109–123.
- Linnaeus, C. 1753. *Species Plantarum: Exhibentes Plantas Rite Cognitas, ad Genera Relatas, cum Differentiis Specificis, Nominibus Trivialibus, Synonymis Selectis, Locis Natalibus, Secundum Systema Sexuale Digestas*. Volume 2. [i]+561–1200+[30]+[1] pp. Stockholm: Impensis Laurentii Salvii.
- Linnaeus, C. 1758. *Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis*. Editio decima, reformata. Volume 1. [iv]+823+[824] pp. Stockholm: Impensis Laurentii Salvii.
- Lipkin, Y., and P. C. Silva. 2002. Marine Algae and Seagrasses of the Dahlak Archipelago, Southern Red Sea. *Nova Hedwigia* 75: 1–90. doi: 10.1127/0029-5035/2002/0075-0001.
- Littler, D. S., and M. M. Littler. 2010. Marine Plants of Pacific Panama. <http://biogeodb.stri.si.edu/pacificalgae/> (accessed: 29 May 2013).
- Lluch-Cota, S. E., E. A. Aragón-Noriega, F. Arreguín-Sánchez, D. Auriol-Gamboa, J. J. Bautista-Romero, R. C. Brusca, R. Cervantes-Durante, R. Cortés-Altramirano, P. Del Monte-Luna, A. Esquivel-Herrera, G. Fernández, M. E. Hendrickx, S. Hernández-Vázquez, H. Herrera-Cervantez, M. Kahru, M. Lavín, D. Lluch-Belda, D. B. Lluch-Cota, J. López-Martínez, S. G. Marinone, M. O. Nevárez-Martínez, S. Ortega-García, E. Palacios-Castro, A. Parés-Sierra, G. Ponce-Díaz, M. Ramírez-Rodríguez, C. A. Salinas-Zavala, R. A. Swartzlose, and A. P. Sierra-Beltrán. 2007. The Gulf of California: Review of Ecosystem Status and Sustainability Challenges. *Progress in Oceanography* 7(1): 1–26. doi: 10.1016/j.pcean.2007.01.013.
- Lobban, C. S., and R. T. Tsuda. 2003. Revised Checklist of Benthic Marine Macroalgae and Seagrasses of Guam and Micronesia. *Micronesia* 35–36: 54–99.
- Loiseaux, S. 1970. Notes on Several Myrionemataceae from California using Culture Studies. *Journal of Phycology* 6: 248–260. doi: 10.1111/j.1529-8817.1970.tb02389.x.
- López-Vivas, J. M., R. Muñoz-Salazar, R. Riosmena-Rodríguez, I. Pacheco-Ruiz, and C. Yarish. 2015. Endemic *Pyropia* Species (Bangiales, Rhodophyta) from the Gulf of California, Mexico. *Journal of Applied Phycology* 27(2):1029–1041. doi: 10.1007/s10811-014-0366-7.
- López-Vivas, J. M., I. Pacheco-Ruiz, R. Riosmena-Rodríguez, and C. Yarish. 2011. Life History of *Porphyra hollenbergii* Dawson (Bangiales, Rhodophyta), a Species from the Gulf of California, México. *Phycologia* 50: 520–529. doi: 10.2216/10-58.1.
- Lyle, L. 1922. *Antithamnionella*, a New Genus of Algae. *Journal of Botany [London]* 60: 346–350. doi: 10.2216/07-47.1.
- Lyngbye, H. C. 1819. *Tentamen Hydrophytologiae Danicae Continens Omina Hydrophyta Cryptogama Daniae, Holsatiae, Faeroae, Islandiae, Groenlandiae Hucusque Cognita, Systematice Disposita, Descripta et Iconibus Illustrata, Adjectis Simul Speciebus Norvegicis*. xxxii+248 pp., 70 pls. Copenhagen: Typis Schultzianis.
- Maggs, C. A., and M. H. Hommersand. 1993. *Seaweeds of the British Isles. Volume 1: Rhodophyta, Part 3A: Ceramiales*. xv+444 pp. London: British Museum (Natural History).
- Maggs, C. A., and C. M. Pueschel. 1989. Morphology and Development of *Ahnfeltia plicata* (Rhodophyta): Proposal of Ahnfeltiales ord. nov. *Journal of Phycology* 25: 333–351. doi: 10.1111/j.1529-8817.1989.tb00131.x.
- Maluf, L. Y. 1983. The Physical Oceanography. In *Island Biogeography in the Sea of Cortez*, T. S. Case and M. L. Cody, eds., pp. 26–45. Berkeley: University of California Press.
- Mamoozadeh, N. R., and D. W. Freshwater. 2011. Taxonomic Notes on Caribbean *Neosiphonia* and *Polysiphonia* (Ceramiales, Florideophyceae): Five Species from Florida, USA and Mexico. *Botanica Marina* 54: 269–292. doi: 10.1515/bot.2011.036.
- Mamoozadeh, N. R., and D. W. Freshwater. 2012. *Polysiphonia* sensu lato (Ceramiales, Florideophyceae) species of Caribbean Panama including *Polysiphonia lobophoralis* sp. nov. and *Polysiphonia nuda* sp. nov. *Botanica Marina* 55(4): 317–347. doi: 10.1515/bot-2012-014.
- Maneveltdt, G. W., and D. W. Keats. 2014. Taxonomic Review Based on New Data of the Reef-Building Alga *Porolithon onkodes* (Corallinales, Rhodophyta) along with Taxa Found to be Conspecific. *Phytotaxa* 190(1): 216–249. doi: 10.11646/phytotaxa.190.1.14.
- Maneveltdt, G. W., E. van der Merwe, and D. W. Keats. 2015. Taxonomic Review of *Hydrolithon samoense* (Corallinales, Rhodophyta) and Other Taxa Found to be Conspecific. *Phytotaxa* 192(4): 230–253. doi: 10.11646/phytotaxa.192.4.2.
- Martens, L. R. von. 1869. Beiträge zur Algen-Flora Indiens. *Flora* 52: 233–238.
- Martínez-Lozano, S., R. J. Bernal-Fematt, and M. A. Escalante-Cavazos. 1991. Algas marinas de algunas localidades de Baja California Sur, Sinaloa y Sonora, México. *Biotam* 3(2): 15–40.
- Martius, C. F. P. 1833. *Flora Brasiliensis seu Enumeratio Plantarum in Brasilia tam Sua Sponte Quam Accedente Cultura Provenientium . . . , Volume 1, Part 1: Algae, Lichens, Hepaticae, Exposuerunt Martius, Eschweiller, Nees ab Esenbeck*. iv+390 pp. Stuttgart: Sumptibus J. G. Cotta.
- Mason, L. R. 1953. The Crustaceous Coralline Algae of the Pacific Coast of the United States, Canada and Alaska. *University of California Publications in Botany* 26: 313–389, pls. 27–46.
- Masuda, M. 1993. *Ahnfeltiopsis* (Gigartinales, Rhodophyta) in the Western Pacific. *Japanese Journal of Phycology* (Sôru) 41: 1–6.
- Masuda, M., and M. D. Guiry. 1995. Reproductive Morphology of *Itonoa marginifera* (J. Agardh) gen. et sp. nov. (Nemastomataceae, Rhodophyta). *European Journal of Phycology* 30: 57–67. doi: 10.1080/09670269500650801.
- Mateo-Cid, L. E., and A. C. Mendoza-González. 1992. Algas marinas bentónicas de la costa sur de Nayarit, México. *Acta Botánica Mexicana* 20: 13–28.
- Mateo-Cid, L. E., A. C. Mendoza-González, L. E. Aguilar-Rosas, and R. Aguilar-Rosas. 2013. Occurrence and Distribution of the Genus *Jania* J. V. Lamouroux (Corallinales, Rhodophyta) in the Pacific Coast of Baja California and Gulf of California, Mexico. *American Journal of Plant Sciences* 4(12B): 1–13. doi: 10.4236/ajps.2013.412A2001.
- Mateo-Cid, L. E., A. C. Mendoza-González, R. Aguilar-Rosas, and L. E. Aguilar-Rosas. 2006. Algas marinas bentónicas de Puerto Penasco, Sonora, México. *Hidrobiológica* 16: 45–65.
- Mateo-Cid, L. E., A. C. Mendoza-González, C. Gracilia-García, and L. Huerta-Múquiz. 2000. Ontribución al estudio de las algas marinas bentónicas de Punta Arena y Cabo Pulmo, Baja California Sur, México. *Acta Botánica Mexicana* 52: 55–73.
- Mateo-Cid, L. E., I. Sánchez-Rodríguez, Y. E. Rodríguez-Montesinos, and M. M. Casas-Valdez. 1993. Estudio florístico de las algas marinas bentónicas de Bahía Concepción, B.C.S., México. *Ciencias Marinas* 19(1): 41–60.
- Mattox, K. R., and K. D. Stewart. 1984. Classification of the Green Algae: A Concept Based on Comparative Cytology. In *Systematics of the Green Algae*, D. E. G. Irvine and D. M. John, eds., pp. 29–72. Systematics Association Special Volume, No. 27. London: Academic Press.
- Mazoyer, G. 1938. Les Cérámiaées de l'Afrique du Nord. *Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord* 29: 317–331.
- McIvor, L., C. A. Maggs, J. Provan, and M. J. Stanhope. 2001. *rbcL* Sequences Reveal Multiple Cryptic Introductions of the Japanese Red Alga *Polysiphonia*. *Molecular Ecology* 10: 911–919. doi: 10.1046/j.1365-294X.2001.01240.x.
- McNeill, J., F. R. Barrie, W. R. Buck, V. Demoulin, W. Greuter, D. L. Hawksworth, P. S. Herendeen, S. Knapp, K. Marhold, J. Prado, W. F. Prud'homme van Reine, G. F. Smith, J. H. Wiersema, and N. J. Truland, eds. 2012. *International Code of Nomenclature for Algae, Fungi, and Plants (Melbourne Code)* [ICN]. Regnum Vegetabile, No. 154. xxx+240 pp. Koenigstein, Germany: Koeltz Scientific Books. <http://www.iapt-taxon.org/nomen/main.php>.
- McNeill, J., F. R. Barrie, H. M. Burdet, V. Demoulin, D. L. Hawksworth, K. Marhold, D. H. Nicolson, J. Prado, P. C. Silva, J. E. Skog, H. Wiersema, and N. J. Truland, eds. 2006. *International Code of Botanical Nomenclature (Vienna Code)*. Regnum Vegetabile, No. 146. xviii+568 pp. Ruggell, Lichenstein: A. R. G. Gantner Verlag K.-G.
- Méndez-Trejo, M. C., R. Riosmena-Rodríguez, E. Ávila, J. M. López-Vivas, and A. Senties. 2014. Evaluación de la invasión de *Acanthophora spicifera* (Rhodophyta) sobre la epifauna en Bahía de La Paz, B.C.S. In *Especies Invasoras Acuáticas: Casos de estudio en ecosistemas de México*, A. M. Low Pfeng, P. A. Quijón, and E. M. Peters Recagno, eds., pp. 433–456. Mexico City: Secretaría de Medio Ambiente y Recursos Naturales, Instituto Nacional de Ecología y Cambio Climático, and University of Prince Edward Island.
- Mendoza-González, A. C., and L. E. Mateo-Cid. 1986. Flora marinas bentónica de la costa noroeste del estado de Sonora, México. *Phytologia* 60(6): 414–427.

- Mendoza-González, A. C., and L. E. Mateo-Cid. 1992 [1991]. Estudio preliminar de las algas marinas bentónicas de la costa de Jalisco, Mexico. *Anales de la Escuela Nacional de Ciencias Biológicas, Mexico* 37: 9–25.
- Mendoza-González, A. C., L. E. Mateo-Cid, and D. Y. García-López. 2015. Three Uncommon Seaweeds of the Pacific Coast of Mexico. *American Journal of Plant Sciences* 6(19): 3187–3192. doi: 10.4236/ajps.2015.619310.
- Mendoza-González, A. C., L. E. Mateo-Cid, and L. Huerta-Múzquiz. 1994. Algas marina bentónicas de Mazatlán, Sinaloa, Mexico. *Acta Botanica Mexicana* 27: 99–115.
- Meneghini, G. 1840. *Lettera del Prof. Giuseppe Meneghini al Dottore Jacob Cornaldi a Pisa*. [4] pp. Pisa: Tipografia Prosperi.
- Meneghini, G. 1841. Adunanaz del dí Settembre 1841: Sunto di una memoria diretta a mostrare i rapporti di organizzazione fra le Alge propriamente dette o Ficee, e le Alge terrestri o Licheni. *Atti della Terza Riunione degli Scienziati Italiani in Firenze-Torino, Primo-duodecimo Congresso* 3: 417–431.
- Migula, W. 1908. *Kryptogamen-Flora von Deutschland, Deutsch-Österreich und der Schweiz im Anschluss an Thomé's Flora von Deutschland bearbeitet von Dr. W. Migula, Volume 2: Algen, Part 2, no. 2: Rhodophyceae, Phaeophyceae, Characeae*. pp. [iii–iv], 1–276, 126 pls. Berlin: Hugo Bermühler Verlag.
- Millar, A. J. K. 2000. *Velerioa magneana* (Brongniartelleae, Ceramiales), a New Red Algal Species from the Coral Sea, South Pacific. *Cryptogamie, Algologie* 21: 157–165.
- Miller, K. A., L. E. Aguilar-Rosas, and F. F. Pedroche. 2011. A Review of Non-native Seaweeds from California, USA and Baja California, México. *Hidrobiológica* 21: 240–254.
- Möbius, K. 1889. Bearbeitung der von H. Schenck in Brasilien gesammelten Algen. *Hedwigia* 28: 309–347, pls. X–XI.
- Moestrup, Ø. 1992. The Algal Classes. In *Proceedings of the Symposium on Culture Collection of Algae, Tsukuba Feb. 15, 1991*, M. M. Watanabe, ed., pp. 1–10. Tsukuba, Ibaraki, Japan: National Institute for Environmental Studies (NIES), Environment Agency.
- Montagne, C. 1837. Centurie des plantes cellulaires exotiques nouvelles. *Annales Sciences Naturelles, Botanique, Série 2*, 8: 345–370.
- Montagne, C. 1840. Seconde centurie de plantes cellulaires exotiques nouvelles. *Décades I et II. Annales des Sciences Naturelles, Botanique, Série 2*, 13: 193–207, pl. 5, pl. 6: figs. 1, 3.
- Montagne, C. 1841 [1840]. Plantes cellulaires. In *Histoire naturelle des îles Canaries*, Volume 3, Part 2, sectio ultima, P. Barker-Webb and S. Berthelot, eds., [i]+xv+208 pp., pls. 1–9. Paris: Bèthune.
- Montagne, C. 1842a. Algae. In *Botanique—Plantes cellularis*, Volume 2, M. Ramon de la Sagra, ed., pp. 1–104, pls. 1–20 in accompanying *Atlas* (Cryptogamie), *Histoire physique, politique et naturelle de l'île de Cuba*. Paris: Arthur Bertrand.
- Montagne, C. 1842b. *Bostrychia*. In *Dictionnaire universel d'histoire naturelle, résumant et complétant tous les faits presents par les encyclopédies les anciens dictionnaires scientifiques les oeuvres completes de Buffon . . .*, Volume 2, C. V. Dessalines d'Orbigny, ed., pp. 660–661. Paris: C. Renard.
- Montagne, C. 1842c. *Prodromus Generum Specierumque Phycarum Novarum, in Itinere ad Polum Antarcticum . . . ab Illustri Dumont d'Urville Peracto Collectarum, Notis Diagnosticis Tantum Huc Evulgatarum, Descriptionibus Verò Fusioribus nec No Iconibus Analyticis Jam Jamque Illustrandarum Auctore C. Montagne, D.M.* pp. [1]–16. Paris: Gide editorem.
- Montagne, C. 1846. Ordo I. Phyceae Fries. In *Volume 1: Cryptogamie*, M. C. Durieu de Maisonneuve, ed., pp. 1–197, pls. 1–16, *Exploration Scientifique de l'Algérie pendant les années 1840, 1841, 1842 . . . Sciences physiques, Botanique*. Paris: Imprimerie Royale.
- Montecinos, A. E., L. Couceiro, A. F. Peters, A. Desrut, M. Valero, and M.-L. Guillemín. 2017 [2016]. Species Delineation and Phylogeographic Analyses in the *Ectocarpus* subgroup *siliculosi* (Ectocarpales, Phaeophyceae). *Journal of Phycology* (VoR online 24 Aug 2016: 1–15) doi: 10.1111/jpy.12452. [In print (Feb 2017) 53(1): 17–31.]
- Mora-Valdés, L. A., and R. Riosmena-Rodríguez. 2016. Checklist of the Green (Ulvophyceae) Macroalgae from the Gulf of California, México. *Phytotaxa* 246(4): 203–247. doi: 10.11646/phytotaxa.246.4.1.
- Müller, O. F. 1778. *Icones plantarum sponte nascentium in regnis Daniae et Norvegiae . . . Flora Danica*. Volume 5, Fasciculus 13. 8 pp., pls. 721–780. Copenhagen: Hof-Bogtrykker Nicolas Møller.
- Murray, G. 1889. On *Boodlea*, a New Genus of Siphonocladaceae. *Journal of the Linnean Society, Botany* 25: 243–245, pl. 49.
- Naccari, F. L. 1828. *Flora veneta o descrizione delle piante che nascono nella provincia de Venezia*, disposta secondo il sistema Linneo e colla indicazione al metodo di Jussieu modification dal De-Candolle arricchita di osservazioni medico-economica di Fortunato Luigi Naccari. Vol. VI. Pp. [1–3], 4–133, pl. [1]. Venice: Pressor Leone Bonvecchiato Editore Libraio in Merceria A S. Bartolomeo.
- Nägeli, C. 1846. *Herposiphonia*. *Zeitschrift für Wissenschaftliche Botanik* 1: 238–256.
- Nägeli, C. 1847. Die neueren Algensysteme und Versuch zur Begründung eines eigenen Systems der Algen und Florideen. *Neue Denkschriften der Allgemeinen Schweizerischen Gesellschaft für die Gesamten Naturwissenschaften* 9(2): 1–275, 10 pls.
- Nägeli, C. 1862 [1861]. Beiträge zur Morphologie und Systematik der Ceramiceen. *Sitzungsberichte der Königlichen Bayerische Akademie der Wissenschaften zu München* 1861(2): 297–415, [1] pl.
- Nägeli, C., and C. Cramer. 1855. *Pflanzenphysiologische Untersuchungen*. Volume 1, Part 1. pp. [vi]+[1]–120, pls. 1–10, 35–38. Zürich: Friedrich Schulthess.
- Nägeli, C., and C. Cramer. 1858. *Pflanzenphysiologische Untersuchungen*. Volume 1, Part 2. pp. [iii]+x+1–623[–624], pls. 11–26. Zürich: Friedrich Schulthess.
- Nakamura, Y. 1950. New *Ceramium* and *Campylaeophora* from Japan. *Scientific Papers of the Institute of Algological Research, Faculty of Science, Hokkaido University* 3: 155–172.
- Nakamura, Y., and M. Tatewaki. 1975. The Life History of Some Species of the Scytosiphonales. *Scientific Papers of the Institute of Algological Research, Faculty of Science, Hokkaido University* 6: 53–93, pls. 1–5.
- Nam, K. W. 2007. Validation of the Generic Name *Palisada* (Rhodomelaceae, Rhodophyta). *Algae* 22(2): 53–55. doi: 10.4490/ALGAE.2007.22.2.053.
- Nam, K. W., and P. J. Kang. 2012. *Algal Flora of Korea*. Volume 4, Number 4. Rhodophyta: Ceramiales: Rhodomelaceae: 18 genera including Herposiphonia. [6]+178 pp. Incheon, Korea: National Institute of Biological Resources.
- Nam, K. W., C. A. Maggs, and D. J. Garbary. 1994. Resurrection of the Genus *Osmundea* with an Emendation of the Generic Delineation of *Laurencia* (Ceramiales, Rhodophyta). *Phycologia* 33: 384–395. doi: 10.2216/i0031-8884-33-5-384.1.
- Nardo, G. D. 1834. De novo Genere Algarum cui Nomen est *Hildenbrandtia prototypus*. *Isis (Oken)* 1834: 675–676.
- Nelson, W. A., J. E. Sutherland, T. J. Farr, D. R. Hart, K. F. Neill, H. J. Kim, and H. S. Yoon. 2015. Multi-gene Phylogenetic Analyses of New Zealand Coralline Algae: *Corallinapetra novaezelandiae* gen. et sp. nov. and Recognition of the Hapalidiales ord. nov. *Journal of Phycology*, 51: 454–468. doi: 10.1111/jpy.12288.
- Nielsen, R. 1994. New Combinations within the Genus *Colaconema* (Acrochaetiaceae, Bangiophyceae). *Nordic Journal of Botany* 14: 715. doi: 10.1111/j.1756-1051.1994.tb01088.x.
- Nielsen, R., G. Petersen, O. Seberg, N. Daugbjerg, C. J. O'Kelly, and B. Wysor. 2013. Revision of the Genus *Ulvella* (Ulvellaceae, Ulvophyceae) Based on Morphology and *tufA* Gene Sequences of Species in Culture, with *Acrochaete* and *Pringsheimiella* Placed in Synonymy. *Phycologia* 52: 37–56. doi: 10.2216/11-067.1.
- Norris, J. N. 1973 [1972]. Marine Algae from the 1969 Cruise of *Makrele* to the Northern Part of the Gulf of California. *Boletín de la Sociedad Botánica de México* 32: 1–30.
- Norris, J. N. 1985. Studies on *Gracilaria* Grev. (Gracilariaceae, Rhodophyta) from the Gulf of California, México. In *Taxonomy of Economic Seaweeds, with Reference to Some Pacific and Caribbean Species*, Volume 1, I. A. Abbott and J. N. Norris, eds., pp. 123–135, figs. 1–15. La Jolla: California Sea Grant College Program, University of California, San Diego.
- Norris, J. N. 2010. *Marine Algae of the Northern Gulf of California: Chlorophyta and Phaeophyceae*. [i–iii]–x+276 pp., figs. 1–109. Smithsonian Contributions to Botany, No. 94. Washington, D.C.: Smithsonian Institution Scholarly Press. doi: 10.5479/si.0081024X.94.276.
- Norris, J. N. 2014. *Marine Algae of the Northern Gulf of California II: Rhodophyta*. Smithsonian Contributions to Botany, No. 96. [i]–xvi+555 pp., figs. 1–236. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Norris, J. N., and K. E. Bucher. 1976. *New Records of Marine Algae from the 1974 R/V Dolphin Cruise to the Gulf of California*. iv+22 pp. Smithsonian Contributions to Botany, No. 34. Washington, D.C.: Smithsonian Institution Scholarly Press. doi: 10.5479/si.0081024X.34.
- Norris, J. N., and S. Fredericq. 2014a. Gigartinales (Gigartinales). In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 328–337. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Norris, J. N., and S. Fredericq. 2014b. Phylloporaceae (Gigartinales). In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 345–352. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.

- Norris, J. N., and C. F. D. Gurgel. 2014. Gracilariales: Gracilariaceae and Pterocladophilaceae. In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 374–405. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Norris, J. N., and D. M. Krayesky. 2014. *Caloglossa* (Delesseriaceae, Ceramiales). In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 218–221. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Norris, J. N., and J. G. Stewart. 2014. Gelidiales: Gelidiaceae, Gelidiellaceae, and Pterocladaceae. In *Marine Algae of the Northern Gulf of California II: Rhodophyta*, by J. N. Norris, pp. 304–318. Smithsonian Contributions to Botany, No. 96. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Norris, R. E. 1987. The Systematic Position of *Gelidiopsis* and *Ceratodictyon* (Gigartinales, Rhodophyceae), Genera New to South Africa. *South African Journal of Botany* 53: 239–246. doi: 10.1016/S0254-6299(16)31436-3.
- Norris, R. E. 1993. Taxonomic Studies on Ceramiaceae (Ceramiales, Rhodophyta) with Predominately Basipetal Growth of Corticating Filaments. *Botanica Marina* 36: 389–398. doi: 10.1515/botm.1993.36.5.389.
- Okamura, K. 1896. Contributions to the Knowledge of the Marine Algae of Japan, II (Continued from no. 110). *Botanical Magazine, Tokyo* 10(111): 33–40, pl. III. doi: 10.15281/jplantres1887.10.111.33.
- Okamura, K. 1909. *Icones of Japanese Algae*. Volume 2, nos. 1–3. pp. 1–61, pls. LI–LXV. Tokyo: Kazamashobo.
- O'Kelly, C. J., A. Kurihara, T. C. Shipley, and A. R. Sherwood. 2010. Molecular Assessment of *Ulva* spp. (Ulvothamnaceae, Chlorophyta) in the Hawaiian Islands. *Journal of Phycology* 46: 728–735. doi: 10.1111/j.1529-8817.2010.00860.x.
- Oliveira Filho, E. C. de. 1977. *Algas Marinhas Bentônicas do Brasil*. [iv]+407 pp. São Paulo, Brazil: Departamento de Botânica do Instituto de Biociências, Universidade de São Paulo.
- Oltmanns, F. 1904. *Morphologie und Biologie der Algen*. Volume 1. vi+733 pp. Jena: Verlag von Gustav Fischer. doi: 10.5962/bhl.title.49423.
- Oltmanns, F. 1922. *Morphologie und Biologie der Algen*. Volume 2: *Phaeophyceae–Rhodophyceae*. 2nd ed. iv+439 pp. Jena: Verlag von Gustav Fischer. doi: 10.5962/bhl.title.44469.
- Ortega, M. M., J. Ruiz-Cárdenas, and M. G. Oliva-Martínez. 1987 [1986]. La vegetación sumergida en la Laguna Agiabampo, Sonora-Sinaloa. *Anales del Instituto de Biología de la Universidad Nacional Autónoma de México, Serie Botánica*, 57(1): 59–107.
- Ouriques, L. C., and Z. L. Bouzon. 2000. Stellate Chloroplast Organization in *Asteronema breviaricatum* comb. nov. (Ectocarpales, Phaeophyta). *Phycologia* 39: 267–271. doi: 10.2216/i0031-8884-39-4-267.1.
- Pacheco-Ruiz, I. 1982. Algas pardas (Phaeophyta) de la costa del Pacífico entre Bahía Todos Santos y la frontera con E.U.A. *Ciencias Marinas* 8(1): 64–77.
- Pacheco-Ruiz, I., J. A. Zertuche-González, J. Espinoza-Ávalos, R. Riosmena-Rodríguez, L. Galindo-Bect, A. Gálvez-Téllez, A. E. Meling-López, and J. Orduña-Rojas. 2008. Macroalgas. In *Bahía de Los Ángeles: Recursos naturales y comunidad, línea base 2007*, G. D. Danemann and E. Ezcurra, eds., pp. 181–213. Ensenada, Mexico: Pronatura Noroeste A.C.; San Diego, USA: San Diego Natural History Museum.
- Pallas, P. S. 1766. *Miscellanea Zoologica Quibus Novae Imprimis Atque Obscurae Animalium Species Describuntur et Observationibus Iconibusque Illustrantur*. . . pp. 3–6+viixii+1–224, pls. 1–14. The Hague: Petrus van Cleef. [Reissue date 1778.]
- Papenfuss, G. F. 1945. Review of the *Acrochaetium-Rhodochorton* Complex of the Red Algae. *University of California Publications in Botany* 18: 299–334.
- Papenfuss, G. F. 1950. Review of the Genera of Algae Described by Stackhouse. *Hydrobiologia* 2: 181–208. doi: 10.1007/BF00046555.
- Papenfuss, G. F. 1956. Notes on South African Marine Algae, IV. *Journal of South African Botany* 22: 65–77.
- Papenfuss, G. F. 1960. On the Genera of the Ulvales and the Status of the Order. *Journal of the Linnean Society of London, Botany* 56: 303–318, 6 pls. doi: 10.1111/j.1095-8339.1960.tb02507.x.
- Papenfuss, G. F. 1967. Notes on Algal Nomenclature, V: Various Chlorophyceae and Rhodophyceae. *Phykos* 5: 95–105.
- Papenfuss, G. F., and L. E. Egerod. 1957. Notes on South African Marine Chlorophyceae. *Phytomorphology* 7: 82–93.
- Papenfuss, G. F., K. E. Mshigeni, and Y.-M. Chiang. 1982. Revision of the Red Alga Genus *Galaxaura* with Special Reference to the Species Occurring in the Western Indian Ocean. *Botanica Marina* 25: 401–444. doi: 10.1515/botm.1982.25.9.401.
- Parkinson, P. G. 1980. *Halymenia: Phycologiae Historiae Analecta Autodidactica, Fasciculus Primus*. 20 pp. Auckland: Pettifogging Press.
- Parkinson, P. G. 1983. The Typification and Status of the Name *Chaetangium* (Algae). *Taxon* 32: 605–610. doi: 10.2307/1221730.
- Pascher, A. 1914. Über Flagellaten und Algen. *Berichte der Deutschen Botanischen Gesellschaft* 32: 136–160.
- Patterson, D. J. 1989. Stramenopiles: Chromophytes from a Protistan Perspective. In *The Chromophyte Algae Problems and Perspectives*, J. C. Green, B. S. C. Leadbeater, and W. L. Diver, eds., pp. 357–379. Systematics Association Special Volume, No. 38. Oxford: Clarendon Press.
- Pedersen, P. M. 1984. Studies on Primitive Brown Algae (Fucophyceae). *Opera Botanica* 74: 1–76.
- Pedroche, F. F., and A. Ávila-Ortiz. 1996. Aspectos morfológicos vegetativos y reproductivos de *Dermonema* (Rhodophyceae: Liagoraceae) en México. *Acta Botánica Mexicana* 34: 63–80.
- Pedroche, F. F., and P. C. Silva. 1996. *Codium picturatum* sp. nov. (Chlorophyta), una especie extraordinaria del Pacífico tropical Mexicano. *Acta Botanica Mexicana* 35: 1–8.
- Pedroche, F. F., P. C. Silva, L. E. Aguilar-Rosas, K. M. Dreckmann, and R. Aguilar-Rosas. 2005. *Catálogo de las algas bentónicas del Pacífico de México, I: Chlorophycota*. [iii]+viii+135 pp. Mexico City: Universidad Autónoma de Baja California, Universidad Autónoma Metropolitana-Iztapalapa, and University of California, Berkeley.
- Pedroche, F. F., P. C. Silva, L. E. Aguilar-Rosas, K. M. Dreckmann, and R. Aguilar-Rosas. 2008. *Catálogo de las algas bentónicas del Pacífico de México, II: Phaeophycota*. Pp. [viii]+vi, 15–146. Mexico City: Universidad Autónoma Metropolitana-Iztapalapa, Universidad Autónoma de Baja California, and University of California, Berkeley.
- Pedroche, F. F., P. C. Silva, and M. Chacana. 2002. El género *Codium* (Codiaceae, Chlorophyta) en el Pacífico de México. In *Monografías Ficológicas 2002*, A. Senties-Granados and K. M. Dreckmann, eds., pp. 11–74. Mexico City: Universidad Autónoma Metropolitana-Iztapalapa.
- Penrose, D., and Y. M. Chamberlain. 1993. *Hydrolithon farinosum* (Lamouroux) comb. nov.: Implications for Generic Concepts in the Mastophoroideae (Corallinales, Rhodophyta). *Phycologia* 32: 295–303. doi: 10.2216/i0031-8884-32-4-295.1.
- Perestenko, L. P. 1975. Krasnye vodorosli dal'nevostochnykh morej SSSR. Plastinchatye kriptonemievye vodorosli (por. Cryptonemiales, Rhodophyta). *Botaničeskij Zhurnal* 60: 1676–1689.
- Perestenko, L. P. 1977. On Some Corrections to *Abbotia* Perest. and *Kallymeniopsis* Perest. Genera. *Botaničeskij Zhurnal* 62: 398.
- Perestenko, L. P. 1996 [1994]. *Krasnye Vodorosli Dal'nevostochnykh Morei Rossi* [Red Algae of the Far-Eastern Seas of Russia]. [4]+5–330+[331] pp. St. Petersburg: Rossiiskaia Akademiia Nauk, Botanichesk Institut im. V. L. Komarova.
- Perrone, C., G. P. Felicini, and A. Bottalico. 2006. The Prostrate System of the Gelidiales: Diagnostic and Taxonomic Importance. *Botanica Marina* 49: 23–33. doi: 10.1515/BOT.2006.003.
- Peters, A. F., and M. N. Clayton. 1998. Molecular and Morphological Investigations of Three Brown Algal Genera with Stellate Plastids: Evidence for Scytotamniales ord. nov. (Phaeophyceae). *Phycologia* 37: 106–113. doi: 10.2216/i0031-8884-37-2-10.1.
- Peters, A. F., and M. E. Ramírez. 2001. Molecular Phylogeny of Small Brown Algae, with Special Reference to the Systematic Position of *Caepidium antarcticum* (Adenocystaceae, Ectocarpales). *Cryptogamie, Algologie* 22: 187–200.
- Philippi, R. A. 1837. Beweis, dass die Nulliporen Pflanzen sind. *Archives für Naturgeschichte* 3: 387–393, pl. 9.
- Piccone, A. 1884a. *Crociera del Corsaro alle Isole Madera e Canarie del Capitano Enrico d'Albertis. Alge*. pp. [3]–60, 1 pl. Genova: Tipografia del r. Istituto Sordo-Muti.
- Piccone, A. 1884b. Contribuzioni all'algologia Eritrea. *Nuovo Giornale Botanico Italiano* 16: 281–332, pls. 7–9.
- Post, E. 1962. *Murrayellopsis dawsonii* Post gen. et spec. nov. aus einem marinen Goldfisch-Nest. [4] pp. Privately printed by the Author.
- Price, J. H., D. M. John, and G. W. Lawson. 1986. Seaweeds of the Western Coast of Tropical Africa and Adjacent Islands: A Critical Assessment, IV: Rhodophyta (Florideae), 1: Genera A–F. *Bulletin of the British Museum (Natural History)*, Botany 15: 1–122.
- Pueschel, C. M., and K. M. Cole. 1982. Rhodophycean Pit Plugs: An Ultrastructural Survey with Taxonomic Implications. *American Journal of Botany* 69: 703–720. doi: 10.2307/2442960.

- Quoy, J. R. C., and P. Gaimard. 1824. Zoologie. In *Voyage autour du Monde, entrepris par ordre du roi, . . . sur les corvettes de S.M. l'Uranie et la Physicienne, pendant les années 1817, 1818, 1819 et 1820*, M. Louis de Freycinet, ed., pp. 183–401. Paris: Pilet-ainé. doi: 10.5962/bhl.title.62491.
- Rabenhorst, L. 1868. *Flora Europaea Algarum Aquae Dulcis et Submarinae*. . . Volume 3, Parts 1–2: *Algarum Chlorophyllophyceas, Melanophyceas et Rhodophyceas Complectens*. xx+461 pp. Leipzig: Eduard Kummer.
- Ramírez, M. E., and B. Santelices. 1991. *Catálogo de las algas marinas bentónicas de la costa temperada del Pacífico de Sudamérica*. 1–410+37 pp. Monografías Biológicas, No. 5. Santiago: Ediciones Universidad Católica de Chile.
- Ramírez, M. E., and V. G. Rojas. 1991. El género *Colpomenia* (F.C. Mertens ex Roth) Derbes et Solier (Phaeophyceae), en Chile. *Boletín del Museo Nacional Historia Natural [Santiago, Chile]* 42: 11–24.
- Reinke, J. 1879. Zwei parasitische Algen. *Botanische Zeitung* 37: 473–478, pl. VI.
- Reinke, J. 1889. *Atlas deutscher Meeresalgen im Auftrage des Königlich Preussischen Ministeriums für Landwirtschaft, Domänen und Forsten herausgegeben im Interesse der Fischerei von der Kommission zur wissenschaftlichen Untersuchung der deutschen Meere*. Volume 1. pp. [i–iv]+1–34, pls. 1–4, 5/6, 7–11, 12/13, 14–25. Berlin: Paul Parey.
- Reinsch, P. F. 1875. *Contribuciones ad algologiam et fungologiam*. Volume 1. pp. [i]–xii+[1]–103+[104], pls. I–III, IIIa, IV–VI, VIa, VII–XII, XIIa, XIII–XX, XXa, XXI–XXXV, XXXVa, XXXVI [Melanophyceae], I–XLII, XLIIa, XLIII–XLVII, XLVIIa, XLVIII–LXI [Rhodophyceae], I–XVIII [Chlorophyllophyceae], I–IX [Fungi]. Leipzig: T. O. Weigel. doi: 10.5962/bhl.title.49697.
- Rindi, F., and H. Verbruggen. 2016. Taxonomic Reshuffling of the Cladophoraceae. *Journal of Phycology* 52: 901–904. doi: 10.1111/jpy.12459.
- Riosmena-Rodríguez, R., L. Paul-Chávez, G. Hernández-Carmona, J. M. López-Vivas, and M. Casas-Valdez. 2009. Taxonomic Reassessment of the Genus *Padina* (Dictyotales, Phaeophyta) from the Gulf of California. *Algae* 24(4): 213–229. doi: 10.4490/ALGAE.2009.24.4.213.
- Riosmena-Rodríguez, R., D. A. Siqueiros-Beltrones, and G. Anaya-Reyna. 1998. New Localities in the Distribution of Macroalgae for the Gulf of California. *Revista de Investigación Científica, Serie Ciencias Marinas, Universidad Autónoma de Baja California Sur* 8(1–2): 34–58.
- Riosmena-Rodríguez, R., D. A. Siqueiros-Beltrones, O. García de la Rosa, and V. Rocha-Ramírez. 1992 [1991]. The Extension Geographic Range of Selected Seaweeds on the Baja California Peninsula. *Revista de Investigación Científica, Serie Ciencias Marinas, Universidad Autónoma de Baja California Sur* 2(2): 13–20.
- Riosmena-Rodríguez, R., and W. J. Woelkerling. 2000. Taxonomic Biodiversity of Corallinales (Rhodophyta) in the Gulf of California, México: Towards an Initial Assessment. *Cryptogamie, Algologie* 21: 315–354. doi: 10.1016/S0181-1568(00)01040-0.
- Riosmena-Rodríguez, R., W. J. Woelkerling, and M. S. Foster. 1999. Taxonomic Reassessment of Rhodolith-Forming Species of *Lithophyllum* (Corallinales, Rhodophyta) in the Gulf of California, Mexico. *Phycologia* 38: 401–417. doi: 10.2216/i0031-8884-38-5-401.1.
- Rocha-Ramírez, V., and D. A. Siqueiros-Beltrones. 1991. El herbario ficológico de la U.A.B.C.S.: Elenco florístico de macroalgas para Balandra en la Bahía de La Paz, B.C.S., México. *Revista de Investigación Científica, por la Universidad Autónoma de Baja California Sur* 2(1): 13–34.
- Rodríguez-Prieto, C., D. W. Freshwater, and N. Sánchez. 2007. Vegetative and Reproductive Morphology of *Gloiocladia repens* (C. Agardh) Sánchez et Rodríguez-Prieto *comb. nov.* (Rhodymeniales, Rhodophyta), with a Taxonomic Re-assessment of the Genera *Faucheia* and *Gloiocladia*. *European Journal of Phycology* 42: 145–162. doi: 10.1080/09670260701291957.
- Rosanoff, S. 1866. Recherches anatomiques sur les Mélobésiées (*Hapalidium*, *Melobesia*, *Lithophyllum* et *Lithothamnion*). *Mémoires de la Société Impériale des Sciences Naturelles de Cherbourg* 12: [4]+5–112, pls. 1–8.
- Rosenvinge, L. K. 1894 [1893]. Grønlands Havalger. In *Meddelser om Grønland, udgivne af Kommissionen for Ledelsen af geologiske og geografiske Undersøgelser i Grønland*, Volume 3, Part IV, pp. [iii]+[765]–981, pls. 1–2. Copenhagen: C. A. Reitzel.
- Rosenvinge, L. K. 1909. The Marine Algae of Denmark, Contributions to Their Natural History, Pt. 1: Introduction, Rhodophyceae, I (Bangiales and Nemalionales). *Det Kongelige Danske Videnskabskabernes Selskabs Skrifter, 7. Række, Naturvidenskabelig og Matematisk Afdeling* 7: 1–151, 2 maps, pls. 1–2.
- Rösler, A., F. Perfectti, V. Peña, and J. C. Braga. 2016. Phylogenetic Relationships of Corallinales (Corallinales, Rhodophyta): Taxonomic Implications for Reef-Building Corallines. *Journal of Phycology* 52: 412–431. doi: 10.1111/jpy.12404.
- Roth, A. W. 1797. *Catalecta Botanica, Quibus Plantae, Novae et Minus Cognitae Describuntur Atque Illustrantur*. Fasciculus 1. [viii]+244+[10] pp., pls. 1–8. Leipzig: Bibliopolio I. G. Mülleriano.
- Roth, A. W. 1806. *Catalecta Botanica, Quibus Plantae Novae et Minus Cognitae Describuntur Atque Illustrantur*. Fasciculus tertius cum tabulis aenaeis, XII. [viii]+350+[2]+[6]+[1] pp., pls. I–XII. Leipzig: Bibliopolio Io. Fr. Gleditschiano.
- Russell, D. J. 1992. The Ecological Invasion of Hawaiian Reefs by Two Marine Red Algae, *Acanthophora spicifera* (Vahl.) Boerg. and *Hypnea musciformis* (Wulfen) J. Ag. and Their Association with Two Native Species, *Laurencia nidifica* J. Ag. and *Hypnea cervicornis* J. Ag. In *Introductions and Transfers of Aquatic Species: A Symposium Held in Halifax, Nova Scotia, 12–13 June 1990*, C. Sinderman, B. Steinmetz, and W. Herschberg, eds., pp. 110–125. ICES Marine Science Symposium, No. 194. Copenhagen: International Council for the Exploration of the Sea.
- Saito, Y. 1985. So-called *Laurencia glandulifera* in Japan and *L. nipponica* (Rhodophyceae, Rhodomelaceae). *Japanese Journal of Phycology (Sôru)* 33: 167–171.
- Sánchez-Ibarra, C., D. M. Bermúdez-García, J. E. Bezaury-Creel, C. Lasch, N. Rodríguez-Dowdell, N. Cárdenas-Torres, S. Rosas-González de Castilla, and A. Gondor. 2013. Plan de acción para la conservación y aprovechamiento sustentable de la biodiversidad terrestre y marina de la región Golfo de California y Pacífico Sudcaliforniano. 1st Ed. 298 pp. Mexico City: Comisión Nacional de Áreas Naturales Protegidas (CONANP), The Nature Conservancy (TNC), y Fondo Mexicano para la Conservación de la Naturaleza, A.C. (FMCN). doi: 10.13140/RG.2.1.4969.0324.
- Sánchez-Vargas, D. P., and M. E. Hendrickx. 1987. Utilization of Algae and Sponges by Tropical Decorating Crabs (Majidae) in the Southeastern Gulf of California. *Revista de Biología Tropical* 35: 161–164.
- Santelices, B. 1998. Taxonomic Review of the Species of *Pterocladia*. *Journal of Applied Phycology* 10: 237–252. doi: 10.1023/A:1008095915164.
- Santelices, B. 2007. Testing the Usefulness of Attachment Structures in the Taxonomy of Small-Sized Gelidioids. *Phycologia* 46: 293–299. doi: 10.2216/06-63.1.
- Santelices, B., and M. H. Hommersand. 1997. *Pterocladia*, a New Genus in the Gelidiaceae (Gelidiales, Rhodophyta). *Phycologia* 36: 114–119. doi: 10.2216/i0031-8884-36-2-114.1.
- Saunders, D. A. 1898. Phycological Memoirs. *Proceedings of the California Academy of Sciences*, 3rd ser., 1: 147–168, pls. 12–32.
- Saunders, D. A. 1899. New or Little-Known Brown Algae of the Pacific Coast. *Erythea* 7: 37–40, 1 pl.
- Saunders, G. W., and M. H. Hommersand. 2004. Assessing Red Algal Supraordinal Diversity and Taxonomy in the Context of Contemporary Systematic Data. *American Journal of Botany* 91: 1494–1507. doi: 10.3732/ajb.91.10.1494.
- Saunders, G. W., J. M. Huisman, A. Vergés, G. T. Kraft, and L. Le Gall. 2017. Phylogenetic Analyses Support Recognition of Ten New Genera, Ten New Species and 16 New Combinations in the Family Kallymeniaceae (Gigartinales, Rhodophyta). *Cryptogamie, Algologie* 38(2): 79–132. doi: 10.7872/crya/v38.iss2.2017.79.
- Saunders, G. W., and G. T. Kraft. 1994. Small-Subunit rRNA Gene Sequences from Representatives of Selected Families of the Gigartinales and Rhodymeniales (Rhodophyta). 1: Evidence for the Plocamiales *ord. nov.* *Canadian Journal of Botany* 72: 1250–1263. doi: 10.1139/b94-153.
- Saunders, G. W., and G. T. Kraft. 2002. Two New Australian Species of *Predaea* with Taxonomic Recommendations for an Emended Nemastomatales and Expanded Halymeniales. *Journal of Phycology* 38: 1245–1260. doi: 10.1046/j.1529-8817.2002.02039.x.
- Saunders, G. W., and J. L. McLachlan. 1990 [1989]. Taxonomic Considerations of the Genus *Rhodophysema* and the Rhodophysemataceae *fam. nov.* (Rhodophyta, Florideophycidae). *Proceedings of the Nova Scotian Institute of Science* 39: 19–26.
- Saunders, G. W., I. M. Strachan, and G. T. Kraft. 1999. The Families of the Order Rhodymeniales (Rhodophyta): A Molecular-Systematic Investigation with a Description of Faucheaceae *fam. nov.* *Phycologia* 38: 23–40. doi: 10.2216/i0031-8884-38-1-23.1.
- Sauvageau, C. 1898 [1897]. Sur quelques Myrionémacées. *Annales des Sciences Naturelles, Botanique, Série 8*, 5: 161–288.
- Sauvageau, C. 1926. Sur un nouveau type d'alternance de générations chez les Algues brunes; les Sporocnales. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences Paris* 182: 361–364.
- Sauvageau, C. 1927. Sur le *Colpomenia sinuosa* Derb. et Sol. *Bulletin de la Station Biologique d'Arcachon* 24: 309–355.

- Savoie, A. M., and G. W. Saunders. 2016. A Molecular Phylogenetic and DNA Barcode Assessment of the Tribe Pterosiphoniae (Ceramiales, Rhodophyta) Emphasizing the Northeast Pacific. *Botany* 94(10): 917–939. doi: 10.1139/cjb-2016-0083.
- Scagel, R. F. 1966. Marine Algae of British Columbia and Northern Washington, Part I: Chlorophyceae (Green Algae). *Bulletin of the National Museum of Canada* 207, Biological Series no. 74: vii+1–257.
- Schaffner, J. H. 1922. The Classification of Plants, XII. *Ohio Journal of Science* 22: 129–139.
- Schmidle, W. 1899. Algologische notizen, XV. *Allgemeine Botanische Zeitschrift für Systematik* 5: 39–41, 57–58.
- Schmidt, O. C. 1938. Beiträge zur Systematik der Phaeophyten, I. *Hedwigia* 77: 213–230.
- Schmitz, F. 1879. Über grüne Algen im Golf von Athen. *Bericht der Naturforschenden Gesellschaft zu Halle* 1878: 17–23.
- Schmitz, F. 1889. Systematische Übersicht der bisher bekannten Gattungen der Florideen. *Flora oder Allgemeine botanische Zeitung* 72: 435–456, pl. XXI.
- Schmitz, F. 1892. 6: Klasse Rhodophyceae, 2: Unterklasse Florideae. In *Syllabus der Vorlesungen über spezielle und medicinisch-pharmaceutische Botanik, Eine Uebersicht über das ganze Pflanzensystem mit Berücksichtigung der Medicinal- und Nutzpflanzen, Grosse Ausgabe*, A. Engler, ed., pp. 16–23. Berlin: G. Borntraeger.
- Schmitz, F. 1894. Kleinere Beiträge zur Kenntniss der Florideen, IV. *Nuova Notarisa* 5: 608–635.
- Schmitz, F. 1896. Bangiaceae. In *Die natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten insbesondere der Nutzpflanzen, bearbeitet unter Mitwirkung zahlreicher hervorragender Fachgelehrten*, Part 1, Volume 2, A. Engler and K. Prantl, eds., pp. 307–316. Leipzig: Wilhelm Engelmann.
- Schmitz, F., and P. Falkenberg. 1897. Rhodomelaceae. In *Die natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten insbesondere der Nutzpflanzen, bearbeitet unter Mitwirkung zahlreicher hervorragender Fachgelehrten*, Part 1, Volume 2, Fascicles 149–150, A. Engler and K. Prantl, eds., pp. 421–480. Leipzig: Wilhelm Engelmann.
- Schmitz, F., and P. Hauptfleisch. 1896. Rhodophyceae. In *Die natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten insbesondere der Nutzpflanzen, bearbeitet unter Mitwirkung zahlreicher hervorragender Fachgelehrten*, Part 1, Volume 2, Fascicle 141, A. Engler and K. Prantl, eds., pp. 289–336. Leipzig: Wilhelm Engelmann.
- Schmitz, F., and P. Hauptfleisch. 1897a. Rhodymeniaceae. In *Die natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten insbesondere der Nutzpflanzen, bearbeitet unter Mitwirkung zahlreicher hervorragender Fachgelehrten*, Part 1, Volume 2, A. Engler and K. Prantl, eds., pp. 396–405. Leipzig: Wilhelm Engelmann.
- Schmitz, F., and P. Hauptfleisch. 1897b. Ceramiaceae. In *Die natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten insbesondere der Nutzpflanzen, bearbeitet unter Mitwirkung zahlreicher hervorragender Fachgelehrten*, Part 1, Volume 2, A. Engler and K. Prantl, eds., pp. 481–504. Leipzig: Wilhelm Engelmann.
- Schneider, C. W., E. N. Ciancola, T. R. Popolizio, D. S. Spagnuolo, and C. E. Lane. 2015. A Molecular-Assisted Alpha Taxonomic Study of the Genus *Centroceras* (Ceramiales, Rhodophyta) in Bermuda Reveals Two Novel Species. *Algae* 30: 15–33. doi: 10.4490/algae.2015.30.1.015.
- Schneider, C. W., and R. B. Searles. 1976. North Carolina Marine Algae, VII: New Species of *Hypnea* and *Petroglossum* (Rhodophyta, Gigartinales) and Additional Records of Other Rhodophyta. *Phycologia* 15: 51–60. doi: 10.2216/i0031-8884-15-1-51.1.
- Schultz, N. E., C. E. Lane, L. Le Gall, D. Gey, A. R. Bigney, B. De Reviers, F. Rousseau, and C. W. Schneider. 2015. A Barcode Analysis of the Genus *Lobophora* (Dictyotales, Phaeophyceae) in the Western Atlantic Ocean with Four Novel Species and the Epitypification of *L. variegata* (J. V. Lamouroux) E. C. Oliveira. *European Journal of Phycology* 50: 481–500. doi: 10.1080/09670262.2015.1078500.
- Segawa, S. 1935. On the Marine Algae of Susaki, Prov. Idzumi, and Its Vicinity. *Scientific Papers of the Institute of Algological Research, Faculty of Science, Hokkaido Imperial University* 1: 59–90, pls. 19–20.
- Sentíes, A. 1995. El género *Polysiphonia* (Ceramiales: Rhodomelaceae) en el Pacífico tropical mexicano. *Revista de Biología Tropical* 43: 39–54.
- Serviere-Zaragoza, E., J. González-González, and D. Rodríguez-Vargas. 1993. Ficoflora de la región de Bahía de Banderas, Jalisco-Nayarit. In *Biodiversidad Marina y Costera de México*, S. I. Salazar-Vallejo and N. E. González, eds., pp. 475–485. Mexico City: Comisión Nacional para el Conocimiento y Aprovechamiento de la Biodiversidad (CONABIO) and Centro de Investigaciones de Quintana Roo (CIQRO).
- Serviere-Zaragoza, E., A. Mazariegos-Villareal, A. R. Rivera-Camacho, J. López-Martínez, and A. Piñón-Gimate. 2012. Macroalgas en redes de arrastre para camarón en fondos marinos del Golfo de California. In *Efectos de la pesca de arrastre en el Golfo de California*, J. López-Martínez and E. Morales-Borjorquez, eds., pp. 49–69. La Paz, Mexico: El Centro de Investigaciones Biológicas del Noroeste and Fundación Produce Sonora.
- Setchell, W. A. 1896. Notes on Kelp. *Erythea* 4: 41–48.
- Setchell, W. A. 1901. Notes on Algae, I. *Zoe* 5: 121–129.
- Setchell, W. A. 1912. Algae Novae et Minus Cognitae, I. *University of California Publications in Botany* 4: 229–268, pls. 25–31.
- Setchell, W. A. 1914. The *Scinaia* Assemblage. *University of California Publications in Botany* 6: 79–152.
- Setchell, W. A. 1923. Parasitic Florideae, II. *University of California Publications in Botany* 10: 393–396.
- Setchell, W. A. 1924. *American Samoa: Part I. Vegetation of Tutuila Island, Part II. Ethnobotany of the Samoans, [and] Part III. Vegetation of Rose Atoll*. Department of Marine Biology Volume 20; Carnegie Institution of Washington Publication No. 341. vi+275 pp., 37 pls. Washington, D.C.: Judd & Detweiler, Inc.
- Setchell, W. A. 1926. Tahitian Algae Collected by W. A. Setchell, C. B. Setchell, and H. E. Parks. *University of California Publications in Botany* 12: 61–142.
- Setchell, W. A. 1937. The Templeton Crocker Expedition of the California Academy of Sciences, 1932, No. 34: Report on the Sargassums. *Proceedings of the California Academy of Sciences*, 4th ser., 22: 127–158, pls. 28–33.
- Setchell, W. A. 1943. *Mastophora* and the Mastophoreae: Genus and Subfamily of Corallinaceae. *Proceedings of the National Academy of Science of the United States of America* 29: 127–135. doi: 10.1073/pnas.29.5.127.
- Setchell, W. A., and N. L. Gardner. 1903. Algae of Northwestern America. *University of California Publications in Botany* 1: 165–419. doi: 10.5962/bhl.title.60223.
- Setchell, W. A., and N. L. Gardner. 1920. Phycological Contributions, I. *University of California Publications in Botany* 7: 279–324+[325].
- Setchell, W. A., and N. L. Gardner. 1922a. Phycological Contributions, III: New Species of *Compsonema*. *University of California Publications in Botany* 7: 353–377.
- Setchell, W. A., and N. L. Gardner. 1922b. Phycological Contributions, V: New Species of *Pylaiella* and *Streblonema*. *University of California Publications in Botany* 7: 385–403.
- Setchell, W. A., and N. L. Gardner. 1922c. Phycological Contributions, VI: New Species of *Ectocarpus*. *University of California Publications in Botany* 7: 403–427.
- Setchell, W. A., and N. L. Gardner. 1924a. Expedition of the California Academy of Sciences to the Gulf of California in 1921: The Marine Algae. *Proceedings of the California Academy of Sciences*, 4th ser., 12: 695–949, 1 map.
- Setchell, W. A., and N. L. Gardner. 1924b. Phycological Contributions, VII. *University of California Publications in Botany* 13: 1–13.
- Setchell, W. A., and N. L. Gardner. 1925. The Marine Algae of the Pacific Coast of North America, Pt. III: Melanophyceae. *University of California Publications in Botany* 8: 383–898.
- Setchell, W. A., and N. L. Gardner. 1930. The Marine Algae of the Revillagigedo Islands Expedition in 1925. *Proceedings of the California Academy of Sciences*, 4th ser., 19: 109–215.
- Setchell, W. A., and N. L. Gardner. 1937. The Templeton Crocker Expedition of the California Academy of Sciences, 1932, no. 31: A Preliminary Report on the Algae. *Proceedings of the California Academy of Sciences*, 4th ser., 22: 65–98, pls. 3–25.
- Setchell, W. A., and L. R. Mason. 1943a. *Goniolithon* and *Neogoniolithon*: Two Genera of Crustaceous Coralline Algae. *Proceedings of the National Academy of Sciences of the United States of America* 29: 87–92. doi: 10.1073/pnas.29.3.4.87.
- Setchell, W. A., and L. R. Mason. 1943b. New or Little Known Crustaceous Corallines of the Pacific North America. *Proceedings of the National Academy of Sciences of the United States of America* 29: 92–97. doi: 10.1073/pnas.29.3.4.92.
- Silberfeld, T., M.-F. L. P. Racault, R. L. Fletcher, A. Couloux, F. Rousseau, and B. de Reviers. 2011. Systematics and Evolutionary History of Pyrenoid-Bearing Taxa in Brown Algae (Phaeophyceae). *European Journal of Phycology* 46: 361–377. doi: 10.1080/09670262.2011.628698.
- Silberfeld, T., F. Rousseau, and B. de Reviers. 2014. An Updated Classification of Brown Algae (Ochrophyta, Phaeophyceae). *Cryptogamie, Algologie* 35(2): 117–156. doi: 10.7872/crya.v35.iss2.2014.117.

- Silva, P. C. 1952. A Review of Nomenclatural Conservation in the Algae from the Point of View of the Type Method. *University of California Publications in Botany* 25: 241–323.
- Silva, P. C. 1957. Notes on Pacific Marine Algae. *Madroño* 14: 41–51.
- Silva, P. C. 1972. Remarks on Algal Nomenclature, V. *Taxon* 21: 199–205. doi: 10.2307/1219270.
- Silva, P. C. 1979. *Codium giraffa*, a New Marine Green Alga from Tropical Pacific Mexico. *Phycologia* 18: 264–268. doi: 10.2216/i0031-8884-18-3-264.1.
- Silva, P. C. 1996. California Seaweeds Collected by the Malaspina Expedition, Especially *Pelvetia* (Fucales, Phaeophyceae). *Madroño* 43: 345–354.
- Silva, P. C., P. W. Basson, and R. L. Moe. 1996. Catalogue of the Benthic Marine Algae of the Indian Ocean. *University of California Publications in Botany* 79: xiv+1–1259.
- Silva, P. C., and T. DeCew. 1992. *Ahnfeltiopsis*, a New Genus in the Phyllophoraceae (Gigartinales, Rhodophyceae). *Phycologia* 31: 576–580. doi: 10.2216/i0031-8884-31-6-576.1.
- Silva, P. C., and H. W. Johansen. 1986. A Reappraisal of the Order Corallinales (Rhodophyta). *British Journal of Phycology* 21: 245–254. doi: 10.1080/00071618600650281.
- Silva, P. C., E. G. Meñez, and R. L. Moe. 1987. *Catalog of the Benthic Marine Algae of the Philippines*. iv+179 pp. Smithsonian Contributions to the Marine Sciences, No. 27. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Sissini, M. N., M. C. Oliveira, P. W. Gabrielson, N. M. Robinson, Y. B. Okolodkov, R. Riosmena-Rodríguez, and P. A. Horta. 2014. *Mesophyllum erubescens* (Corallinales, Rhodophyta)—So Many Species in One Epithet. *Phytotaxa* 190(1): 299–319. doi: 10.11646/phytotaxa.190.1.18.
- Smith, G. M. 1933. *The Fresh-Water Algae of the United States*. xi+716 pp. New York: McGraw-Hill Book Co.
- Smith, G. M. 1944. *Marine Algae of the Monterey Peninsula, California*. viii+622 pp., 98 pls. Stanford, Calif.: Stanford University Press.
- Smith, G. M., and G. J. Hollenberg. 1943. On Some Rhodophyceae from the Monterey Peninsula, California. *American Journal of Botany* 30: 211–222. doi: 10.2307/2437242.
- Smith, J. E., and J. de Carle Sowerby. 1843. *Supplement to the English Botany of the Late Sir J.E. Smith and Mr. Sowerby: The Descriptions, Synonyms, and Places of Growth by William Jackson Hooker, LL.D. Regius Professor of Botany in the University of Glasgow, F.R.S. F.S.A. L.S. &c. and Other Eminent Botanists; the Figures by James de Carle Sowerby, F.L.S. &c. . . .* Volume 3. [i–viii] pp., pls. 2797–2867. London: Longman & Co. and Sherwood & Co.
- Solier, A.-J.-J. 1846. Sur deux algues zoosporées formant le nouveau genre *Derbesia*. *Revue Botanique, Recueil Mensuel (Duchartre)* 1: 452–454.
- Solms-Laubach, H. 1895. Monograph of the Acetabulariaceae. *Transactions of the Linnean Society of London, Second Series, Botany* 5: 1–39, pls. 1–4.
- Sonder, O. G. 1845. Nova Algarum Genera et Species, Quas in Itinere ad Oras Occidentales Novae Hollandiae, Collegit L. Priess, Ph. Dr. *Botanische Zeitung* 3(4): 49–57.
- Sonder, O. W. 1871. Die algen des tropischen Australiens. *Abhandlungen aus dem Gebiete der Naturwissenschaften herausgegeben von dem Naturwissenschaftlichen Verein in Hamburg* 5(2): 33–71, pls. I–VI.
- South, G. R., and P. A. Skelton. 2003. Catalogue of the Marine Benthic Macroalgae of the Fiji Islands, South Pacific. *Australian Systematic Botany* 16: 699–758. doi: 10.1071/SB03011.
- Stackhouse, J. 1797. *Nereis Britannica; Continens Species Omnes Fucorum in Insulis Britannicis Crescentium: Descriptione Latine et Anglico, Necnon Iconibus ad Vivum Depictis. . . .* Fasciculus 2. pp. xi–xxiv, 31–70, pls. 9–13. Bath, UK: S. Hazard.
- Stackhouse, J. 1809. Tentamen Marino-Cryptogamicum, Ordinem Novum, in Genera Species Distributum, in Classe xxivta Linnæi Sistens. *Mémoires de la Société Impériale des Naturalistes de Moscou* 2: 50–97, pls. 5–6.
- Steentoft, M., L. M. Irvine, and W. F. Farnham. 1995. Two Terete Species of *Gracilaria* and *Gracilariopsis* (Gracilariales, Rhodophyta) in Britain. *Phycologia* 34: 113–127. doi: 10.2216/i0031-8884-34-2-113.1.
- Stegenga, H. 1985. Marine Acrochaetiaceae (Rhodophyta) of Southern Africa. *South African Journal of Botany* 51: 291–330. doi: 10.1016/S0254-6299(16)31636-2.
- Steneck, R. S., and R. T. Paine. 1986. Ecological and Taxonomic Studies of Shallow-Water Encrusting Corallinales (Rhodophyta) of the Boreal Northeastern Pacific. *Phycologia* 25: 221–240. doi: 10.2216/i0031-8884-25-2-221.1.
- Stephenson, T. A. 1944. The Constitution of the Intertidal Fauna and Flora of South Africa. *Annals of the Natal Museum* 10: 261–358.
- Stewart, J. G. 1974. Systematics of *Pterocladia media* from California. *Bulletin of the Southern California Academy of Sciences* 73: 105–108.
- Stewart, J. G. 1989. Notes on Marine Algae of San Diego County Including Merger of *Murrayellopsis* with *Veleroa*. *Bulletin of the Southern California Academy of Sciences* 88: 103–116.
- Stewart, J. G. 1991. *Marine Algae and Seagrasses of San Diego County. A Handbook of Benthic Marine Plants from Intertidal and Subtidal Sites between the U.S.-Mexican Border and Orange County, California*. 197 pp. La Jolla, Calif.: California Sea Grant College Program, University of California, La Jolla.
- Stizenberger, E. 1860. *Dr. Ludwig Rabenhorst's Algen Sachsens resp. Mitteleuropas's Decade I–C. Systematisch geordnet, mit Zugrundelegung eines neuen Systems*. [5]+6–41 pp. Dresden: Dampfschnellpressen, Druck von C. Heinrich.
- Strömfelt, H. F. G. 1886. *Om alvegetationen vid Islands Kuster*. pp. 1–89, pls. 1–3. Göteborg: D. F. Bonniers Boktryckeri. [Reissued in *Göteborgs Kongliga Vetenskaps och Vitterhets Samhälles Handlingar, New Series* 2, 21: 1–89, pls. 1–3. 1887.]
- Suhr, J. N. von. 1834. Übersicht der Algen, welche von Hr. Ecklon an der südafrikanischen Küste gefunden worden sind. *Flora* 17(46,47): 721–735, 737–743, pls. I, II.
- Sun, Z.-G., T. Hanyuda, P.-E. Lim, J. Tanaka, C. F. D. Gurgel, and H. Kawai. 2012. Taxonomic Revision of the Genus *Lobophora* (Dictyotales, Phaeophyceae) Based on Morphological Evidence and Analyses *rbcl* and *cox3* Gene Sequences. *Phycologia* 51: 500–512. doi: 10.2216/11-85.1.
- Sutherland J. E., S. C. Lindstrom, W. A. Nelson, J. Brodie, M. D. J. Lynch, M. S. Hwang, H.-G. Choi, M. Miyata, N. Kikuchi, M. C. Oliveira, T. Farr, C. Neefus, A. Mols-Mortensen, D. Milstein, and K. M. Müller. 2011. A New Look at an Ancient Order: Generic Revision of the Bangiales (Rhodophyta). *Journal of Phycology* 47: 1131–1151. doi: 10.1111/j.1529-8817.2011.01052.x.
- Svedelius, N. 1906. Reports on the Marine Algae of Ceylon. No. 1: Ecological and Systematic Studies of the Ceylon Species of *Caulerpa*. *Reports of the Ceylon Marine Biological Laboratory* 2(4): 81–144.
- Tanaka, T. 1944. The Japanese Species of Protofloridae. *Scientific Papers of the Institute of Algological Research, Faculty of Science, Hokkaido Imperial University* 3: 79–97.
- Taylor, W. R. 1928. *The Marine Algae of Florida with Special Reference to the Dry Tortugas*. v+219 pp. Papers from the Tortugas Laboratory of the Carnegie Institution of Washington, No. 24. Carnegie Institution Washington Publication, No. 379. Washington, D.C.: Carnegie Institution of Washington.
- Taylor, W. R. 1945. Pacific Marine Algae of the Allan Hancock Expeditions to the Galápagos Islands. *Allan Hancock Pacific Expeditions* 12 (Complete): iv+528 pp.
- Taylor, W. R. 1950. *Plants of Bikini and Other Northern Marshall Islands*. xv+227 pp., 79 pls. Ann Arbor: University of Michigan Press.
- Taylor, W. R. 1955. Notes on Algae from the Tropical Atlantic Ocean, IV. *Papers of the Michigan Academy of Sciences, Arts and Letters* 40: 67–76.
- Taylor, W. R. 1957. *Marine Algae of the Northeastern Coast of North America*. Rev. ed. xi+509 pp. Ann Arbor: University of Michigan Press.
- Taylor, W. R. 1960. *Marine Algae of the Eastern Tropical and Subtropical Coasts of the Americas*. xi+870 pp. Ann Arbor: University of Michigan Press.
- Thiers, B. 2015. Index Herbariorum: A Global Directory of Public Herbaria and Associated Staff. New York Botanical Garden's Virtual Herbarium. <http://sweetgum.nybg.org/ih/>. [Continuously updated.]
- Townsend, R. A. 1979. *Synarthrophyton*, a New Genus of Corallinales (Cryptonemiales, Rhodophyta) from the Southern Hemisphere. *Journal of Phycology* 15: 251–259. doi: 10.1111/j.0022-3646.1979.00251.x.
- Trevisan [de Saint-Leon], V. B. A. 1845. *Nomenclator algarum, ou collection des noms imposés aux plantes de la famille des algues. . . .* Volume 1. 80 pp. Padua: Imprimerie du Seminaire.
- Trevisan [de Saint-Leon], V. B. A. 1848. *Saggio di una monografia delle Alge Coccotalle*. pp. 1–112. Padua: Coi Tipi del Seminario.
- Tseng, C. K. 1945. New and Unrecorded Marine Algae of Hong Kong. *Papers of the Michigan Academy of Sciences, Arts, and Letters* 30: 157–172, pls. 1–2.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). 2011. World Heritage List: Islands and Protected Areas of the Gulf of California. <http://whc.unesco.org/en/list/1182/documents/>
- UNESCO. 2013. World Heritage List: Islands and Protected Areas of the Gulf of California. <http://whc.unesco.org/en/list/1182/documents/>
- UNESCO. 2016. World Heritage List, Islands and Protected Areas of the Gulf of California. <http://whc.unesco.org/en/list/1182/documents/>
- van Andel, T. H., and G. G. Shor, eds. 1964. *A Symposium: Marine Geology of the Gulf of California*. American Association of Petroleum Geologists Memoir, No. 3. 408 pp. Tulsa, Okla.: American Association of Petroleum Geologists.

- Verlaque, M., C. Durand, J. M. Huisman, C.-F. Boudouresque, and Y. Le Parco. 2003. On the Identity and Origin of the Mediterranean Invasive *Caulerpa racemosa* (Caulerpales, Chlorophyta). *European Journal of Phycology* 38: 325–339. doi: 10.1080/09670260310001612592.
- Vickers, A. 1905. Liste des algues marines de la Barbade. *Annales des Sciences Naturelles, Botanique, Série 9*, 1: 45–66.
- Vieira, C., S. D'hondt, O. De Clerck, and C. E. Payri. 2014. Toward an Inordinate Fondness for Stars, Beetles and *Lobophora*? Species Diversity of the Genus *Lobophora* (Dictyotales, Phaeophyceae) in New Caledonia. *Journal of Phycology* 50: 1101–1119. doi: 10.1111/jpy.12243.
- Vieira, C. [W.], O. Camacho, Z.-M. Sun, S. Fredericq, F. Leliaert, C. Payri, and O. De Clerck. 2017. Historical Biogeography of the Highly Diverse Brown Seaweed *Lobophora* (Dictyotales, Phaeophyceae). *Molecular Phylogenetics and Evolution* 110: 81–92. doi: 10.1016/j.ympev.2017.03.007.p
- Vieira, C. [W.], O. Camacho, M. J. Wynne, L. Mattio, R. J. Anderson, J. J. Bolton, M. Sansón, S. D'hondt, F. Leliaert, S. Fredericq, C. Payri, and O. De Clerck. 2016. Shedding New Light on Old Algae: Matching Names and Sequences in the Brown Algal Genus *Lobophora* (Dictyotales, Phaeophyceae). *Taxon*, 65(4): 689–707. doi: 10.12705/654.1.
- Vinogradova, K. L. 1973. K anatomii roda *Petalonia* Derb. et Sol. (Scytosiphonales). *Novosti Sistematiki Nizshikh Rastenij Botanicheskij Institut, Akademiiya Nauk SSSR* 10: 28–31.
- Wang, H.-W., S. Kawaguchi, T. Horiguchi, and M. Masuda. 2000. Reinstatement of *Grateloupia catenata* (Rhodophyta, Halymeniaceae) on the Basis of Morphology and *rbcL* Sequences. *Phycologia* 39: 228–237. doi: 10.2216/i0031-8884-39-3-228.1.
- Warming, E. 1884. *Haandbog I den systematiske Botanik: Naermest til Brug for Laerere og Universitets-Studerende*. Anden gennemsete Udgave. [iv]+434+[iii] pp. Copenhagen: P. G. Philipsens Forlag.
- Weber-van Bosse, A. 1898. Monographie des Caulerpes. *Annales du Jardin Botanique de Buitenzorg* 15: 243–401, pls. XX–XXXIV.
- Weber-van Bosse, A. 1905. Note sur le genre *Dictyosphaeria* Dec. *Nuova Notarisia* 15: 142–144.
- Weber-van Bosse, A. 1923. Liste des algues du Siboga, III: Rhodophyceae, Seconde partie: Ceramiales. In *Uitkomsten op Zoologisch, Botanisch, Oceanographisch en Geologisch Gebied verzameld in Nederlandsch Oost-indie 1899–1900 aan boord H. M. Siboga onder commando van Luitenant ter Zee le kl. G. F. Tydeman*, M. Weber, ed., pp. [iii]+1–82, 311–392, pls. IX, X. Siboga-Expeditie Monographie, No. 59c. Leiden: E. J. Brill.
- Weber-van Bosse, A., and M. H. Foslie. 1904. The Corallinaceae of the Siboga-Expedition. In *Uitkomsten op Zoologisch, Botanisch, Oceanographisch en Geologisch Gebied verzameld in Nederlandsch Oost-indie 1899–1900 aan boord H. M. Siboga onder commando van Luitenant ter Zee le kl. G. F. Tydeman*, M. Weber, ed., pp. 1–110, pls. 1–16. Siboga-Expeditie Monographie, No. 61. Leiden: E. J. Brill.
- West, J. A., G. C. Zuccarello, F. F. Pedroche, and U. Karsten. 1994. *Caloglossa apomeiotica* sp. nov. (Ceramiales, Rhodophyta) from Pacific Mexico. *Botanica Marina* 37: 381–390. doi: 10.1515/botm.1994.37.4.381.
- Wetstein, R. 1901. *Handbuch der systematischen Botanik*. Volume 1, Part 1. iv+[v]+201 pp. Leipzig: Franz Deuticke.
- Wilkes, R. J., L. McIvor, and M. D. Guiry. 2006. Vegetative Morphology and *rbcL* Phylogeny of Some Members of the Genera *Botryocladia* and *Irvinea* (Rhodymeniaceae, Rhodophyta). *Phycologia* 45: 481–494. doi: 10.2216/i0031-8884-30-6-507.1.
- Willkomm, M. 1854. *Anleitung zum Studium der Wissenschaftlichen Botanik*. Zweiter Theil. Specille Botanik. Pp. [i]–viii, [1]–490. Leipzig: F. Fleischer.
- Wilson, H. L. 1910. *Gracilariophila*, a New Parasite on *Gracilaria confervoides*. *University of California Publications in Botany* 4: 75–84.
- Withall, R. D., and G. W. Saunders. 2007 [2006]. Combining Small and Large Subunit Ribosomal DNA Genes to Resolve Relationships among Orders of the Rhodymeniophycidae (Rhodophyta): Recognition of the Acrosymphytales ord. nov. and Sebdeniales ord. nov. *European Journal of Phycology* 41: 379–394. doi: 10.1080/09670260600914097.
- Woelkerling, W. J. 1971. Morphology and Taxonomy of the *Audouinella* Complex (Rhodophyta) in Southern Australia. *Australian Journal of Botany, Supplement Series* 1: 1–91.
- Woelkerling, W. J. 1972. Studies on the *Audouinella microsporica* (Naeg.) Woelk. Complex (Rhodophyta). *Rhodora* 74: 85–96.
- Woelkerling, W. J. 1987. The Genus *Choreonema* in Southern Australia and Its Subfamilial Classification within the Corallinaceae (Rhodophyta). *Phycologia* 26: 111–127. doi: 10.2216/i0031-8884-26-1-111.1.
- Woelkerling, W. J., Y. M. Chamberlain, and P. C. Silva. 1985. A Taxonomic and Nomenclatural Assessment of *Tenarea*, *Titanoderma* and *Dermatolithon* (Corallinaceae, Rhodophyta) Based on Studies of Type and Other Critical Specimens. *Phycologia* 24: 317–337. doi: 10.2216/i0031-8884-24-3317.1.
- Woelkerling, W. J., G. Gustavsen, H. E. Myklebost, T. Prestø, and S. M. Sæstad. 2005. The Coralline Red Algal Herbarium of Mikael Foslie: Revised Catalogue with Analyses. *Gunneria* 77: 1–625.
- Wollaston, E. M. 1968. Morphology and Taxonomy of Southern Australian Genera of Crouanieae Schmitz (Ceramiales, Rhodophyta). *Australian Journal of Botany* 16: 217–417, 10 pls. doi: 10.1071/BT9680217.
- Womersley, H. B. S. 1978. Southern Australian Species of *Ceramium* Roth (Rhodophyta). *Australian Journal of Marine and Freshwater Resources* 29: 205–257. doi: 10.1071/MF9780205.
- Womersley, H. B. S. 1984. *The Marine Benthic Flora of Southern Australia. Part I*. pp. [1–6], 7–329, 16 pls. Adelaide: D. J. Woolman, South Australia Government Printer.
- Womersley, H. B. S. 1987. *The Marine Benthic Flora of Southern Australia. Part II*. pp. [6]+7–484. Adelaide: South Australia Government Printing Division.
- Womersley, H. B. S. 2003. *The Marine Benthic Flora of Southern Australia. Rhodophyta, Part IIID: Ceramiales–Delesseriaceae, Sarcomeniaceae, Rhodomelaceae*. Flora of Australia Supplementary Series, No. 18. 533 pp. Canberra: Australian Biological Resources Study and State Herbarium of South Australia.
- Womersley, H. B. S., and A. Bailey. 1970. Marine Algae of the Solomon Islands. *Philosophical Transactions of the Royal Society of London, Series B* 259: 257–352, pls. 24–27. doi: 10.1098/rstb.1970.0060.
- Won, B. Y., T. O. Cho, and S. Fredericq. 2009. Morphological and Molecular Characterization of Species of the Genus *Centroceras* (Ceramiales, Ceramiales), Including Two New Species. *Journal of Phycology* 45: 227–250. doi: 10.1111/j.1529-8817.2008.00620.x.
- Wulfen, F. X. 1803. *Cryptogama aquatica*. *Archiv für die Botanik* 3: 1–64, pl. 1.
- Wynne, M. J. 1969. *Platysiphonia decumbens* sp. nov., a New Member of the *Sarcocenia* Group (Rhodophyta) from Washington. *Journal of Phycology* 5: 190–202. doi: 10.1111/j.1529-8817.1969.tb02602.x.
- Wynne, M. J. 1972. Studies of Life Forms in Nature and Culture of Selected Brown Algae. In *Contributions to the Systematics of Benthic Marine Algae of the North Pacific*, I. A. Abbott and M. Kurogi, eds., pp. 133–145. Kobe: Japanese Society of Phycology.
- Wynne, M. J. 1983. The Current Status of Genera in the Delesseriaceae (Rhodophyta). *Botanica Marina* 26: 437–450. doi: 10.1515/botm.1983.26.9.437.
- Wynne, M. J. 1985a. Taxonomic Notes of Some Delesseriaceae (Rhodophyta) Occurring in Southern California and Mexico. *Bulletin of the Southern California Academy of Sciences* 84: 164–171.
- Wynne, M. J. 1985b. Concerning the Names *Scagelia corallina* and *Heterosiphonia uurdmannii* (Ceramiales, Rhodophyta). *Cryptogamie, Algologie* 6: 81–90.
- Wynne, M. J. 1986. *Porphyrostromium* Trevisan (1848) vs. *Erythrotrichopeltis* Kornmann (1984) (Rhodophyta). *Taxon* 35: 328–329. doi: 10.2307/1221281.
- Wynne, M. J. 1989. *Scinaia interrupta* (A. DC.) comb. nov., an Older Name for *S. turgida* Chemin, and *S. pseudocrispa* (Clemente) comb. nov., an Older Name for *S. forcellata* Biv.-Bern. (Galaxauraceae, Rhodophyta). *Candollea* 44: 129–136.
- Wynne, M. J. 1997. *Rosenvingea antillarum* (P. Crouan & H. Crouan) comb. nov. to Replace *R. floridana* (W. R. Taylor) W. R. Taylor (Scytosiphonales, Phaeophyta). *Cryptogamie, Algologie* 18: 331–336.
- Wynne, M. J. 2001. The Tribes of the Delesseriaceae. *Contributions of the University of Michigan Herbarium* 23: 407–417.
- Wynne, M. J. 2002. The Reinstatement of the Name *Ulva nematoidea* Bory de Saint-Vincent (Chlorophyta) and the Placement of *U. costata* (Howe) Holtenberg in Its Taxonomic Synonymy. *Cryptogamie, Algologie* 23(1): 5–12.
- Wynne, M. J. 2003. *Sporochnus anomalus* (Pallas) comb. nov. (Sporochneales, Phaeophyceae), the Oldest Available Name for *Sporochnus gaertnera* C. Agardh. *Cryptogamie, Algologie* 24: 75–81.
- Wynne, M. J. 2005. A Checklist of Benthic Marine Algae of the Tropical and Subtropical Western Atlantic: Second Revision. *Beihefte zur Nova Hedwigia* 129: [ii]+152.
- Wynne, M. J. 2011. A Checklist of Benthic Marine Algae of the Tropical and Subtropical Western Atlantic: Third Revision. *Nova Hedwigia Beihefte* 140: [1]–7–166.
- Wynne, M. J. 2016. The Proposal of *Willeella brachyclados* (Montagne) M. J. Wynne comb. nov. (Ulvophyceae). *Notulae Algarum* 18: 1–3.
- Wynne, M. J., and J. N. Norris. 1976. *The Genus Colpomenia Derbès et Sohier (Phaeophyta) in the Gulf of California*. Smithsonian Contributions to

- Botany, No. 35: pp. iii+1–18. Washington, D.C.: Smithsonian Institution Scholarly Press.
- Xiang, S.-D. 2004. Study on *Polysiphonia* and *Neosiphonia* from China. *Journal of Zhejiang University (Science Edition)* 31(1): 88–97.
- Yamada, Y. 1931. Notes on *Laurencia*, with Special Reference to the Japanese Species. *University of California Publications in Botany* 16: 185–310[+311], pls.1–30.
- Yamada, Y. 1933. Notes on Some Japanese Algae, V. *Journal of the Faculty of Science, Hokkaido Imperial University* 2(3): 277–285, pls. 10–13.
- Yamada, Y. 1938. The Species of *Liagora* from Japan. *Scientific Papers of the Institute of Algological Research, Faculty of Science, Hokkaido Imperial University* 2: 1–34, pls. 1–15.
- Yamada, Y. 1940. On the Species of *Caulerpa* from Micronesia. *Kagaku Nanyō* 3: 95–107. [In Japanese.]
- Yamada, Y. 1941. Notes on Some Japanese Algae, IX. *Scientific Papers of the Institute of Algological Research, Faculty of Science, Hokkaido Imperial University* 2: 195–215, pls. 40–48.
- Yamada, Y. 1942. Notes on *Sargassum* from the Southern Parts of Japan, III. *Journal of Japanese Botany* 18: 553–562. (In Japanese.)
- Yamada, Y., and K. Inagaki. 1935. *Acrothamnion pulchellum* Yamada (non J. Agardh) from Japan. *Scientific Papers of the Institute of Algological Research, Faculty of Science, Hokkaido Imperial University* 1: 37–40.
- Yamagishi, Y., and M. Masuda. 1997. Species of *Hypnea* from Japan. In *Taxonomy of Economic Seaweeds, with Reference to Some Pacific Species*, Volume 6, I. A. Abbott, ed., pp. 139–162. La Jolla, Calif.: California Sea Grant College System, University of California, San Diego.
- Yendo, K. 1902a. Corallinae verae Japonicae. *Journal of the College of Science, Imperial University of Tokyo, Japan* 16(3): 1–36+[2], 7 pls.
- Yendo, K. 1902b. Corallinae verae of Port Renfrew. *Minnesota Botanical Studies* 2: 711–722, 6 pls.
- Yendo, K. 1905. A Revised List of Corallinae. *Journal of the College of Science, Imperial University of Tokyo, Japan* 20(12): 1–46.
- Yendo, K. 1907. The Fucaceae of Japan. *Journal of the College of Science, Imperial University of Tokyo, Japan* 21(12): 1–174, folded table, pls. I–XVIII.
- Yendo, K. 1920. Novae algae Japoniae, decas I–III. *Botanical Magazine, Tokyo* 34(397): 1–12. doi: 10.15281/jplantres1887.34.397_1b.
- Yoneshigue, Y. 1984. Flore marine de la région de Cabo Frio (Brésil), 4: Sur une espèce nouvelle du genre *Peyssonnelia* (Cryptonemiales, Rhodophyta). *Vie et Milieu* 34: 133–137.
- Yoon, H.-S., K. M. Müller, R. G. Sheath, F. D. Ott, and D. Bhattacharya. 2006. Defining the Major Lineages of Red Algae (Rhodophyta). *Journal of Phycology* 42: 482–492. doi: 10.1111/j.1529-8817.2006.00210.x.
- Yoshida, T. 1980. Two New Species of Red Algae from the West Coast of Kyushu, Japan. *Japanese Journal of Phycology (Sôru)* 28: 69–74.
- Young, D. N. 1981. Taxonomic Observations on Eastern Pacific *Antithamnion* species (Rhodophyta: Ceramiales) Described by E.Y. Dawson. *Proceedings of the Biological Society of Washington* 94: 94–100.
- Zanardini, G. 1858 [1857]. Plantarum in mari Rubro hucusque collectarum enumerato (juvante A. Figari). *Memoire del Reale Istituto Veneto di Scienze, Lettere ed Arti* 7: 209–309, pls. III–XIV.
- Zanardini, G. 1878. Phyceae Papuanae Novae vel Minus Cognitae a cl. O. Beccari in Itinere ad Novam Guineam Annis 1872–75 Collectae. *Nuovo Giornale Botanico Italiano* 10: 34–40.
- Zeh, W. 1912. Neue Arten der Gattung *Liagora*. *Notizblatt des Königlichen Botanischen Gartens und Museums zu Dahlem bei Steglitz (Berlin)* 5: 268–273.
- Zuccarello, G. C., W. F. Prud'homme van Reine, and H. Stegenga. 2004. Recognition of *Spyridia griffithsiana* comb. nov. (Ceramiales, Rhodophyta): A Taxon Previously Misidentified as *Spyridia filamentosa* from Europe. *Botanica Marina* 47: 481–489. doi: 10.1515/BOT.2004.064.
- Zuccarello, G. C., B. Sandercock, and J. A. West. 2002. Diversity within Red Algal Species: Variation in World-Wide Samples of *Spyridia filamentosa* (Ceramiales) and *Murrayella pericladus* (Rhodomelaceae) Using DNA Markers and Breeding Studies. *European Journal of Phycology* 37: 403–417. doi: 10.1017/S0967026202003827.

Index of Scientific Names

All taxa recognized in the Gulf of California are shown in **bold type**. Names of all genera and species, subspecies, varietas, and forma of the benthic marine red, brown, and green algae are shown in **bold italics**, and higher taxa (phyla, classes, subclasses, orders, families, and subfamilies) are in **bold SMALL CAPITAL LETTERS**.

Names of genera and species that are uncertain records, excluded species, or synonyms; have uncertain taxonomic status; have a distribution outside of the Gulf; or are referred to in Remarks are in *nonbold italics*, and higher taxa are in nonbold **SMALL CAPITAL LETTERS**.

Page numbers in **bold type** refer to the start of the taxonomic accounts for currently accepted names of the Gulf taxa. Page numbers in nonbold type refer to taxa mentioned in the synopses lists, Remarks of other accounts, or elsewhere in the text (excluding tables of contents and references).

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FIGURES must be numbered sequentially (1, 2, 3, etc.) in the order called out; have components lettered consistently (in size, font, and style) and described in captions; include a scale bar or scale description, if appropriate; include any legends in or on figures rather than in captions. Figures must be original and must be submitted as individual TIF or EPS files.

FIGURE FILES must meet all required specifications in the Digital Art Preparation Guide. Color images should be requested only if required.

TAXONOMIC KEYS in natural history manuscripts should use the aligned-couplet form for zoology. If cross referencing is required between key and text, do not include page references within the key, but number the keyed-out taxa, using the same numbers with their corresponding heads in the text.

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